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HOW TO TEACH THE FUNDAMENTAL SUBJECTS

BY

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COMMISSIONER OF EDUCATION FOR THE
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FOR THE STATE OF NEW JERSEY



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EDITOR'S INTRODUCTION

THE authors of this volume of the series have had unusual opportunities to study the methods and results of competent teachers, and to note wherein beginning teachers and those with little training are most frequently deficient. They have also been largely concerned, for many years and in important places, with the preparation of courses of study, teaching plans, and the supervision of instruction. The results of their experience and observation relating to elementary-school instruction they have embodied in this book, presenting these results in that simple, direct, and unadorned language which is calculated to render a maximum of assistance to both experienced and inexperienced teachers.

For one cause or another many teachers have not been able to obtain that careful preparation for teaching which the best professional standards of the day require. Moreover, there are many teachers, and often those of some training and experience, who are so situated that they cannot have that aid and inspiration which come from the frequent visits of a helpful supervisory officer. Such teachers will find this volume of much value in bringing to them the expert advice which teachers in our more progressive school systems to-day receive. The discussions herein pre-

sented on the teaching of the common-school branches will be found to be helpful and practical. Those who are preparing to teach will also find in the volume a good presentation of the best methods of instruction in these fundamental studies of the elementary-school course.

Every teacher faces more or less the danger of having her work gradually sink into a lifeless routine. When this happens, ineffective instruction and educational waste usually come to characterize her teaching. There are a number of means for preventing the coming on of such a condition, but two of the surest of these are the daily contact with an inspiring supervisor, and a maintained familiarity with the best working plans and the most successful methods employed by members of the teaching profession elsewhere. It is believed that this volume, written as it has been by two of our most successful supervisors, offers such a presentation of working plans and successful methods, and with such a belief it is herewith presented to the teaching public.

ELLWOOD P. CUBBERLEY.

PREFACE

THIS book discusses the teaching of the common fundamental subjects found in elementary schools. It also contains suggestions as to what should make up the course of study in these subjects, and it attempts to set forth some of the principles that should underlie methods of instruction and determine the selection of subject-matter. It is essentially a book for the use of teachers and supervisors of schools and for those who are preparing to be teachers.

The subjects discussed consume by far the greater part of the time of both teachers and pupils in the elementary schools. To say that the teaching of these subjects should be as skillful as possible is a commonplace. Because of the difference in the quality of teaching, one class exercise in reading is of infinitely greater value than another class exercise. For the same reason, one school may be found to be inferior to another school, even in the same system.

To secure better teaching in the plain things of the course of study is one of the needs of the schools, and therefore one of the supreme objects of school administration.

“Whatever is worth doing at all is worth doing well” is as true of the teaching and study of spelling, English composition, and arithmetic, and of the other activities

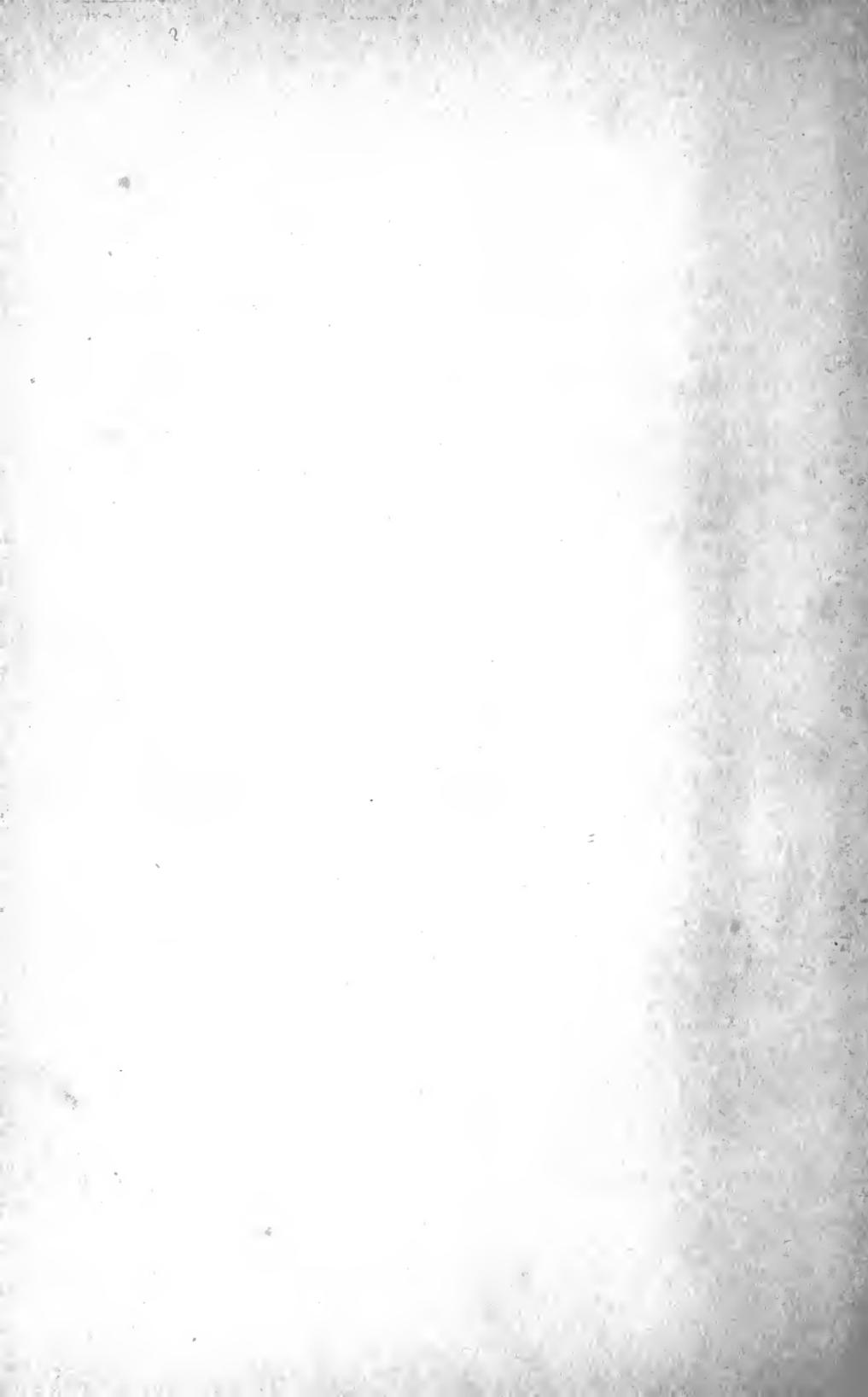
of the school, as it is of the business of life itself. To the extent that the teaching of the fundamental subjects is well done, to that extent is good use made of the greater part of the pupils' time. Moreover, there is the insistent public demand for good results in these subjects.

The interests that engage the attention of the public schools have rapidly multiplied during very recent years. The administration of schools, never a simple matter, has become a complex affair — largely because of changes in our social and economic life. Only a partial enumeration of new fields of work either forced upon or undertaken by public-school authorities includes the use of school-buildings as social or community centers, industrial training of various kinds, the vocational guidance of pupils, the training of mentally defective children, the growth of parent-teacher organizations and others of similar character, the broadening of the scope of physical education including medical inspection and the teaching of safety, the better enforcement of compulsory education laws, the establishment of different kinds of schools for different types of children, better appointed schoolhouses, the increase in the number of special days to be observed, the establishment of summer schools, and playgrounds. This list readily might be extended. By their entrance into social and industrial fields the schools have enormously increased their usefulness.

All this, however, should cause, and need cause, no

diminution of interest in the substantial teaching of the fundamental subjects. Indeed, when these activities are properly directed and coördinated with the fundamental subjects, better results in the latter may be expected.

Two other considerations may be mentioned which influence the work of teachers in the elementary field. One is the very great expansion of knowledge; the other is the better understanding of children. The first offers a temptation to attempt too many things; the second reveals the necessity of modifying some of the traditional ways of teaching. It is hoped that in the following pages teachers may find suggestions that will help them to meet the complex requirements of their profession.



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HOW TO TEACH THE FUNDAMENTAL SUBJECTS

CHAPTER I THE POINT OF VIEW

EVERY teacher is asking daily two questions, "What shall I teach? How shall I teach?" Some answers each teacher must give to these questions, and in a variety of ways each is answering them every time a lesson is planned, assigned or taught.

The local course of study is a general guide for the teachers. It states, for instance, that South America or division is to be taught in a certain grade. It directs the teacher to select carefully the material for study. It recommends methods of instruction. But these general suggestions must be interpreted and the methods must be adapted when they are applied in the education of different individuals and classes. If only important facts are to be taught, the teacher must have standards by which the value of facts may be measured. If instruction is to be effective, the facts taught must be related to the pupils' present interests.

Inasmuch as teachers are engaged in a public service and not in a private business, it is important that the answers that they make to the questions, "What

shall I teach? How shall I teach?" be in harmony with the point of view that is prevailing at the present time. That the great body of teachers is earnestly searching for present-day answers is evidenced by the study they are giving everywhere to education.

It is true that final answers cannot be found for these fundamental educational questions. But teachers are as much under obligation to search for them as the sociologist, the physician, the electrician, the biologist are under obligation to search for the undiscoverable answers to the fundamental questions in their fields of interest. The search will carry each one nearer the truth.

If, then, one looks out into the world to discover the influence that is now at work there, he cannot fail to see that in government, in business, in religion, in science, in fact in every phase of human thinking and action the "practical" point of view is controlling. If he transfers his study to the field of education, he will find the same influence there also, and he will discover that it is somewhat rapidly modifying school practices from the kindergarten through the university.

So much has been written and said regarding this influence that no full discussion of it will be attempted here. But inasmuch as the treatment of each subject that follows is made from this practical standpoint, it will be well for the reader to have in mind at the outset a few of the educational implications involved in it, that are now very generally accepted.

These implications are as follows:—

1. Only those subjects and those parts of subjects should be studied which are useful in everyday modern life.
2. The emphasis given to a subject or a topic of study in school should be determined by its relative usefulness in the community.
3. Having selected the material for study and determined the amount of emphasis to be given each subject and topic according to the preceding two principles, the distribution of subjects and the assignment of topics should be governed by the learners' abilities, aptitudes and experience.
4. Methods of instruction and of study should conform with the nature of the learner and of the subject taught.
5. Methods of instruction should involve as far as possible immediate practical application of knowledge, that has a two-fold result: first, a useful product that is worth while in the view of the learner, and second, skill in performance.

The acceptance of this point of view and of these implications does not turn every school into a trade school. It does not discard, even from trade schools, art, literature, music, or any other subject useful in life. That is not alone useful which contributes to mere existence and its physical comforts. That is also useful that raises living to a higher plane, and that gives it in any particular a new or greater value. Education that is planned to realize the practical ideal, purposes to take into account all the values in life and to relate them in living processes, in harmony with and reinforcing the biological process.

Where this point of view is the guiding principle, all subjects and parts of subjects that have no present-

day value will be eliminated from the curriculum together with those subjects that have been taught as an end in themselves, or for disciplinary purposes only. Courses of study will be differentiated as soon as individual abilities or inabilities become so well developed that they are safe educational guides. Each school will have an individuality of its own, creating each for itself a peculiar school life, making use of the materials and opportunities that are at hand, accepting the limitations established by the social and economic conditions of the pupils and by its situation. The rural school will not copy the city school, but each will have the equipment, each will evolve the program of work and play and each will apply the methods that experience proves to be most effective in realizing the practical ideal.

The acceptance of this point of view carries with it the acceptance also of the fact that knowledge in the abstract and unrelated lacks a very large part of its significance. That Froebel recognized this is demonstrated by his gifts and occupations. There are many common illustrations of its truth. The tables of measurements, for example, are by themselves meaningless. They acquire meaning as they are objectively applied. English words whose meaning and use are unknown are as foreign to pupils as Sanskrit or Chinese words, and the study of their spelling is as profitless in the one case as in the other. The formula for mixing cement has only a potential value which is

realized when the formula is applied in an actual mixing process. Because abstract knowledge is futile, the education of doctors, lawyers, engineers, scientists, business men, is to-day fifty per cent practice; that is, application of the knowledge found in books and received in the lecture room. It must therefore come to pass that methods of elementary instruction will include increasingly practical, concrete use of knowledge by each pupil. The more fundamentally important the knowledge, the more imperative is the need for experience in application.

Although the growing acceptance of this point of view is evolving a very different type of school from that of the nineteenth century, there are minor details on which there is no general agreement. For example, it is now agreed that useless mathematics should be eliminated from the elementary school curriculum; but there appears to be a difference of opinion regarding the practical value of the cube and square root of large numbers. There is general assent to the proposal to omit all grammar that is not directly useful in bettering a child's talking and writing; but all do not agree to omit a study of the infinitive. Self-control and self-direction are universally recognized as qualities that determine successful living, but people judge differently in particular cases regarding the amount of external control that is desirable to cultivate these qualities successfully.

But, even if there are differences of opinion in many

details, nevertheless the acceptance of the practical point of view will make of the five implications previously mentioned determining influences in the construction of courses of study, and guides for the teacher in interpreting the course of study, in adapting methods of instruction, and in regulating the life of the school.

COLLATERAL READING

1. On discipline: —

Education. Ralph Waldo Emerson.
Chapter I, pages 26-34.

2. On work and play: —

How We Think. John Dewey.
Chapter XII, pages 161-69.

3. On the importance of the concrete and practical: —

(a) *Education.* Ralph Waldo Emerson.
Chapter IV.

(b) *The Concrete and Practical in Modern Education.* Charles W. Eliot.

Chapter I, pages 1-8; 10-16; 34-39.
Chapter II, pages 56-57.

(c) *Interest and Effort.* John Dewey.
Chapter IV.

4. On individuality: —

(a) *Genetic Psychology for Teachers.* C. H. Judd.
Chapter V, pages 129-33; 138-44.

(b) *How to Study.* F. M. McMurry.
Chapter X.

5. On effort, thinking, and motivation: —

Interest and Effort. John Dewey.
Chapter III.

6. On the course of study: —

Culture, Discipline, and Democracy. A. Duncan Yocom.
Chapter VII.

7. On dramatization: —

The Dramatic Method of Teaching. Harriet Finley Johnson.
Chapter I.

8. *On school conditions and mental training:* —(a) *How We Think.* John Dewey.

Chapter III, pages 43-44.

Chapter IV.

(b) *How to Study.* F. M. McMurry.

Chapter XI.

(c) *Genetic Psychology for Teachers.* C. H. Judd.

Chapter IV.

Also the following books: —*Changing Conceptions of Education.* E. P. Cubberley.

A brief résumé of the history of the American public school, showing its evolution to the present time.

The School and Society. John Dewey.

A modern educational classic.

CHAPTER II

ENGLISH

THE study of the English language may relate to any one of the six phases: reading, common speech, composition, grammar, spelling, and penmanship. In this order these subjects are discussed in the following pages.

Reading

There has been a generally accepted theory that "reading is getting the thought from the printed page," but in practice much of the reading in schools consists in orally reproducing the *words* of the printed page. "Good expression" in oral reading commonly receives first and most careful attention. Systematic search for the thought is often omitted or slighted. In fact, not infrequently oral reading and reading have been treated as equivalent.

It is true that oral reading is an important part of *teaching* to read, but it should be realized that the ability to recognize and say *words*, even to say them with a semblance of understanding, is not a proof of ability to read. One may do this and yet be quite unable to read with intelligence or appreciation.

Dr. G. Stanley Hall appositely says: "True reading

is taking in the ideas, sentiments, facts of the author as completely and as unchanged as possible. . . . Later, of course, and only later, comes the reader's critical reaction upon what he has read."

The reading to which Dr. Hall refers is purely a mental process, the first half of which is sympathetic understanding, appreciation, and self-surrender to the author. The second half consists in putting the author's thought over against the reader's experience and conviction. This requires the reader's self-assertion and his critical judgment.

Thus we see that the mere vocal pronunciation of words is only a mechanical phase of reading. In the early stages of learning to read, we have to emphasize it, and keep the child saying "cat" and "mat" until he recognizes the idea instantly from the printed words. But this emphasis is justified only as it is recognized as an economical approach to true reading. The teacher should keep before the child the great purpose of reading — that through this patient labor he is unlocking for himself a magic storehouse of wonderful tales.

You remember how in Kipling's *Baa, Baa, Black Sheep*, poor little Black Sheep was driven to "learn to read." Aunty Rosa set him up on a table with a dog-eared primer and told him that *a b* was *ab*. When Black Sheep inquired why, she responded, "Because I tell you it is, and you've got to say it." So he accepted the fact rebelliously, and later also accepted

the statement that certain dots and marks meant: "The cat lay on the mat and the rat came in." Aunty Rosa said so, and you were beaten if you did n't say so, too. Presently he could "read" about the cat equally well with the primer upside down. "Now I can truly read," said Black Sheep, "and now I will never read anything again."

Then in the cupboard he found a ragged book of adventures, and for the first time understood that those hieroglyphs had interesting meanings. He dived into that book with delight, and emerged demanding: "What is a falchion? What is an e-wee lamb? What is a base us-surper?" He was punished by his elders for asking questions; but that did n't matter. Black Sheep had learned to read, and by the next post he asked his father for "all the books in the world." That was true reading.

So, while oral reading is the road to the enchanted palace, it is not the palace itself. One may not be able to reach the palace without traveling the road; but it is quite inexcusable for a guide to mistake the dusty highway for the magic garden in which the palace stands.

The relative importance of the different phases in reading may be roughly indicated by the diagram on the opposite page, in which the circle represents the entire reading process.

Learning to read

The pupil passes through a period when he is becoming acquainted with the mechanics of reading. He must learn to recognize and pronounce words and letters, to associate meanings with words, phrases, and sentences. This period extends through the first three years of school.

In former times, the learning process was mechanical and formal. Pupils memorized the names of the letters in the alphabet, and then memorized the spelling of disconnected words, their copper-toed shoes ranged along the guide-line of a convenient crack in the schoolroom floor. That was the method in the school of which Whittier sang, "I'm sorry that I spelt the word! I hate to go above you." When a few of the simplest words had been learned, they were put together into short, unrelated sentences, in which the cat and the rat and the mat played star rôles.

In the course of time it was realized that the name of a letter is often as different from its sound in a word



Diagram showing comparative proportion of time to be devoted to the mechanics of reading and to mental and emotional training.

as a person's name is different from his voice. It was David Grayson, I think, who tells of the French servant-maid who spelled her name without using a single correct letter. She was christened *Sophie*. Her ear for spelling was phonetically fairly good. And her triumphant result was *Cawfy*. This is true of many words. For instance, the pronunciation of the word *their* could never be discovered by giving in sequence the names of the letters of which it is made. So it came to pass that the sounds of letters were taught as well as their names, and phonics became an element in the teaching-to-read process.

During recent years, the teaching of reading has been influenced also by a more general recognition of the fact that the pupil himself is on a par in importance with the subject he studies. The interests of children, the ways in which their minds act, their capacities and aptitudes, are modifying methods of instruction and drill, and are determining the kind and quantity of reading assigned, and the quality expected in each grade.

Characteristics of a good system of teaching reading

From the experiments and experiences of those wise investigators and teachers who have taken into account both the subject and the learner, some general principles are discoverable. These may be found in all good systems of teaching primary reading. The teacher will be able, if she understands these prin-

ciples, to use intelligently the available texts or the adopted system without employing the exaggerations of any particular method or discrediting the teaching a child may have previously received at home or in some other school. These principles may be stated as follows:—

1. *The child's own life is the basis of his interests.* Therefore the material of his early reading-lessons should relate to this life. This thought material may be drawn directly from his life experiences — those of which he is already conscious, or those that the teacher may help him realize. Or it may be drawn from stories or pictures that portray similar experiences. Pets, playmates, games and other good times are characteristic topics.

2. *The story quality.* It is the better practice now to have the early lessons in reading consist of sentences which have such a relation to each other that they make a continued story. If the teacher prefers to begin with isolated words, there should be no delay in putting them into interesting sentences and in relating the sentences in a story. If the sentence is the starting point, the pupil should begin at once to recognize the individual word. In short, the word and sentence methods should be so blended that the pupil's mind is littered neither with a miscellaneous lot of disconnected word-forms, nor with a series of unanalyzed sentence forms.

3. *Using the sounds of letters.* The letters composing

the words will be gradually, though systematically, learned as they are needed. For instance, the words *pin* and *pen* differ only in the middle letters. Inasmuch as the pupils need to note the difference in the form of these letters and their sounds, before they need to know their names, it has become customary to require the children to give the sounds of the letters, and identify them by sound, before they call them by name. Diacritical marks are not used as much as formerly, but the long and short signs are generally believed to be helpful, even in the earlier stages of learning to read.

4. *Saying the alphabet.* While it is doubtless the general practice to delay the formal learning of the names of the letters until the first steps in the learning process have been taken, yet these should be known in their order by the end of the first year. However, formal exercises in "saying the alphabet" should not be given until near the close of the year.

5. *Making the pupils independent.* Pupils should be made increasingly independent of the teacher's assistance. The teacher may easily force this independence too far, and some systems have erred in this particular. Nevertheless, the teacher's function is that of a helper when there is real need of help. If assistance is not given when it is needed, waste of time and mental confusion of the pupil result.

6. *Recognition of words.* In a good system of teaching reading, such varied uses of the words to be learned

will be given that they are readily recognized whenever they are seen, either alone, or in new relations.

7. *The evil of mechanical repetition.* The form or sound of a word, or of a sentence, must never be divorced from the meaning. The mechanical repetition of words or sentences should have no place in school.

8. *Use of script or print in blackboard lessons.* There appears to be no agreement among successful teachers as to the use of script and print in the early blackboard lessons. The forms of print that one teacher uses in writing on the board are doubtless as different from the print of the book as are the script forms used by another teacher. At least, the pupils appear to find no greater difficulty with one than with the other. Although teachers who use print testify that the print forms are as easy to make as the script forms, yet if there is no particular advantage to be gained — and in actual practice there seems to be no advantage — it seems unwise to ask teachers to train themselves to become skillful in printing.

9. *The place of phonics.* It is now generally recognized that phonics should not be taught for its own sake. Its one excuse for existence is the help it may give a pupil in reading. The most recent teachers' manuals agree in carefully selecting the kind of work and in limiting the amount given. It is realized that phonics is an unsafe guide to pronunciation, outside of a very limited field. Moreover, visual syllabication, or the practice of teaching words in parts, destroys the

mental picture of the word as an unbroken whole. The pupil comes to see the word in two forms, and is hindered rather than helped. For illustrative purposes, it may be desirable to divide a word into syllables, but the divided word should not be allowed to impress itself on the mind.

Nevertheless, it is unquestionably a help to be able to recognize short words and groups of letters which invariably, or almost invariably, sound the same in whatever words they may occur. Such prefixes as *in*, *pre*, *con*; such suffixes as *ly*, *ed*, *ing*; such phonograms as *ease*, *cal*, *en*, *own*, may be taught to excellent advantage. Employed with discrimination, phonics is a help in teaching reading and also leads to an improved use of the vocal organs.

10. *Voice training.* "The American voice" has justly been the subject of criticism. Listen to the voices in a street-car, at a tea, in the public highways, and it will be noticed that many of them are harsh and uncultivated. *I sez to him* and *he sez to me* are as common as they are deplorable. Such slovenly usage as *winder*, *goin'*, and the like should not be tolerated. The soft intonation and clear, pleasant diction of some educated people are delightful exceptions to our national habit of rasping and untidy speech. Every teacher should do all he can to eradicate it among the young Americans under his charge.

Much study is now being given in some quarters to the problem of voice training in the schools, and in the

near future practical suggestions based on the physiology of speaking will doubtless be given to teachers. At present, the best that most of them can do is to secure through exercises a clear, distinct utterance of pleasing quality, and a correct pronunciation.

The director of music is made responsible in some schools for training in the use of the speaking and reading voice as well as of the singing voice, and he may very properly be called on for this service.

11. Ear training. This is important in the first lessons. For this, stories may be told with broken words for pupils to recognize and name. For example:—

Once a f-o-x was going down a dusty r-o-ad. He saw a large b-unch of gr-a-pes hanging high upon a vi-ne. He tried to reach the gr-a-pes, but he could not do it. Then he said: "These gr-a-pes are s-our. I do not want th-em."

12. The eye-minded and the ear-minded. Attention should be given to the different types of learners. These are as evident in reading as in arithmetic, spelling, and other subjects. If phonics is used too much, some eye-minded children will lose their natural advantage. If each pupil is not given an opportunity to vocalize, to listen, to form words, letters, and sentences on the blackboard; if dramatization is not employed, some children will fail in reading who ought not to fail.

13. A good system of teaching reading will be simple. It has been pointed out by Dr. Hall¹ that an intelli-

¹ *Educational Problems.*

gent child does not require an elaborate method of instruction. The more intelligent the child, the simpler the method should be. It is the mentally deficient who need the highly elaborated process of instruction. So true is this that many children learn to read at home with very little help from their elders.

14. *Give the children plenty to read.* No system is good that does not give pupils plenty of practice in reading. Several readers and miscellaneous books that are interesting and adapted to the grade should be available even in the first year.

15. *Make the reading lesson pleasurable.* A good system may be judged by the temper of the class. The reading exercise should be a happy one, not drudgery. The spirit of anticipation in "Tell me a story" should be its spirit, and children should find it as pleasant as their elders find the reading of a novel or a book of verse. On the jacket of a recent "best seller" is inscribed a word of wisdom: —

Life for most of us is getting up in the morning and going to bed again at night, with eight or nine more hours of work sandwiched in between. Our adventures are practical adventures of something to eat and something to wear. If we keep out of debt and in health we feel we have done pretty well. And so we have, but it is not particularly exhilarating. Life, we know, must hold something more; that if we had time to turn the corner, we should find Romance; if we were free to go down the other side of the mountain, we should meet Adventure. But Work and Duty are our relentless overseers. How shall we escape them and find the happy land of Something Doing? There is but one door open, and above it is written the cheering word Fiction.

So the reading lesson should be an excursion into the land of adventure, not a hated and hateful ordeal. In fact, that is not putting it strongly enough. The reading lesson should be the most keenly anticipated hour of the child's day.

The reading lesson is primarily — should be primarily — a time when the child's experience is broadened, when he lives a richer, fuller, more varied life than he can possibly enjoy in his own circumscribed world. In the reading lesson he can "run away" from the prosaic and familiar, open the magic gate of the printed page, and enter the world of imagination.

Don't lock that wonderful gateway in his face with a complicated system of phonics, word-drills, and other bolts and bars. Don't stop at the very moment when everybody is on tiptoe to know whether the Crocodile actually ate the Elephant's Child for dinner, or whether William Tell really cleft the apple on his little boy's head, — don't stop then and ask something irrelevant about diacritical marks. The supreme aim in the reading lesson is to make the child love to read. Do that and you have done well.

Conditions favoring success

But there are other considerations that will very largely determine the success of the teacher of reading in the first three grades besides those that have been discussed. They relate to size and make-up of classes, to the amount of time given to the subject, to the proper

relations of silent and oral reading lessons, to the selection of reading matter, and to the influence of the teacher's reading on that of the pupils.

The relatively small reading class is absolutely necessary throughout these years when each pupil must be reached in each recitation. Each one must have a chance to make his own mistakes, and there must be time for corrections. Moreover, pupils should be grouped according to their ability, the less mature and less able being placed in the smaller groups. In the case of the latter, the regular class work should be supplemented by special help and practice in small groups of two to six pupils. These extra group exercises should not be left to chance, but should be provided for in the daily program. Only thus will the usually high percentage of retardation in these early years be reduced to its just proportion.

The amount of time given to reading during these years should be proportionate to its importance. In the first and second years, each of the three regular classes into which a school may be divided should have three fifteen-minute periods daily with the teacher. In schools with two or more grades, this desirable amount of time may be reduced. In the third year at least one twenty-minute period daily, with divisions of from ten to fifteen pupils, should be given to training in reading, and a second period of the same length with divisions consisting of half the school — never the entire school — should be given to supplementary

reading. While one division is thus engaged, the others may be having a silent reading lesson.

Silent and oral reading and study

The silent reading lesson is as important in these grades as the oral reading lesson. In fact, as it has been pointed out previously, oral reading is largely a means of training for intelligent and thoughtful silent reading. But reading cannot be intelligent and thoughtful unless it contains the element of study. Inasmuch as children are not born with the knowledge of how to study, they must be taught.

There are two types of study lesson: (1) That of the class with the teacher. This is generally a preparation for an oral reading lesson. (2) That of individual study, indirectly controlled by the teacher.

The profit that pupils derive from these study lessons depends upon the questions or directions given by the teacher to guide their thinking. The more definite and restricted these are, the more they partake of the nature of problems, the more thought-provoking they will be.

The direction, "Make as many words as you can" is not as stimulating to the mind as the direction, "Make ten words that are the names of objects," "of actions," "of objects in your kitchen at home," "of actions that you see in the schoolroom." Or the teacher may suggest, "Make ten words with the phonogram *ing*; ten with *ace*"; and so on. This becomes a game,

and is instantly popular. Witness the earnestness with which children study the word puzzles in the pages of *St. Nicholas*, and the pride with which they win an "Honorable Mention."

There are numerous other fruitful assignments for study, of which these are a few examples:—

1. We are to learn five new words to-day. Let us see who will pick them out most quickly as the lesson is read.
2. This lesson is about a game. Did you ever play it? Could we play it? How?
3. This lesson is about something that happened to a boy named Billy. Did anything like this ever happen to you? Tell us about it.
4. Let us write the name of each person in the story. When the lesson is read, let us be ready to tell what each one did.
5. Which is the most interesting paragraph in the story? What is the most important event? Who is the most important person? Whom do you like best? Why?
6. Is the story well named? Why?

Another means of stimulating to a thoughtful study of a selection is dramatization. Every class from the first to the fifth grades should have at least one reader in which dramatization is emphasized. To-day there are few readers that do not contain a number of selections peculiarly adapted to this kind of interpretation, even though the editors have given no specific suggestions for such a use.

All children have the dramatic instinct, and many of them are natural actors, if they are not made self-conscious. All the teacher needs to do is to give them a chance.

The first requirement is "the play." The old folk-tales and fables, or stories in the form of conversation accompanied with action, will provide that. The teacher who has never staged one of these impromptu plays will be astonished at the readiness with which the children accept the responsibility of planning the scenes and arranging the stage setting. The more informal the exercise, the better. "Let's pretend" is a familiar phrase on childish lips. A desk becomes a throne, a space railed off by two chairs is transformed into a queen's bower, and a stick wound about with the merest strip of tinsel is a wand with which to conjure spirits.

The second requirement is the contagious enthusiasm of the teacher. The children must not be afraid to let their imaginations go because "Teacher" is there. A most successful performance of *Julius Cæsar* was given by a group of small boys, none of whom had ever seen a theatrical performance, under the direction of a teacher whose chief qualification was that same contagious enthusiasm. He could n't act much, and he labored under numerous difficulties. But he *felt* the play, and he made the boys feel it.

Books, home reading, and the teacher

The necessity for an abundance of well-selected reading matter is obvious. The modern primary school readers leave little to desire in the quality and variety of their selections and in their artistic appear-

ance. The teacher's great difficulty is to get enough of these books to meet the intellectual needs of the pupils.

In addition to the books provided for regular class use, one copy of each of fifteen or twenty books of different kinds should be supplied to every primary grade teacher. These should be loaned to pupils for home reading. Many children have books at home, but few have them as simple in style, interesting in content, and well illustrated as most of the primary grade readers.

And finally, the teacher's reading may be a constant inspiration and guide to the children. The teacher who reads like a machine will get machine-like reading from the pupils, where the teacher who reads with spirit and force, entering into the characters, and interpreting the thought and emotion of the author, will get a far better quality of results with his class. Imitation is a powerful educational force.

The teacher's judgment must be his guide in determining when to supply the model in reading for the children to follow. He will, of course, not forget that the training given the child should produce independence. But often it is a mental relief to the class, and the best kind of help, for the teacher to read an entire selection, or parts of it, as a model for the class to imitate. There is also the story telling and the reading of stories which are too difficult in diction while suitable in thought and style for the pupils. The

teacher should make this a part of the regular program.

GRADE I

The first six weeks

The lessons of the first five or six weeks should be at the blackboard. There are three sources whence material may be drawn.

1. Some excellent teachers use the everyday experience of the children. A short, spirited conversation about the children's games, their pets, or some phase of their home life, should introduce each lesson that is based on these experiences.

2. Other teachers prefer to use the simpler nursery rhymes. By the end of the month the average normal child of six should be able to read easily from script or print, as many as twenty-five nursery rhymes and repetition tales. The following is a list ¹ of the rhymes and stories that were read at the end of a month by the children who entered the first grade of the elementary school of the Georgia Normal and Industrial College in September: —

Jack Be Nimble.	Hey Diddle Diddle.
Pat-a-Cake.	Little Jack Horner.
Little Boy Blue.	Rosy Boys.
Smiling Girls.	Baa, Baa, Black Sheep.
Ride a Cock Horse.	Diddle Diddle Dumpling.
Who Killed the Rat?	Hark, Hark, the Dogs Do
Hickory Dickory Dock.	Bark.

¹ Reported in *Education*, February, 1911, by Laura Mann.

The Little Red Hen.
Who Has Seen the Wind?
This Little Pig Went to
Market.
Great A, Little A, Bouncing
B.
There Was an Old Woman
Who Lived in a Shoe.
Pussy Came Creeping at the
Door.

There Was a Little Man and
He Had a Little Head.
Little Tim Sprat.
Bye Baby Bunting.
One, Two, Three, Four, Five,
I Caught a Fish Alive.
There Was a Little Boy.
The Rain is Raining All
Around.
Little Girl, Little Girl, Where
Have You Been?

Yet other teachers believe it to be most economical to take their blackboard lessons from the primer. After these lessons have been taught from the blackboard they are reviewed in the book. This generally takes about six weeks.

The quality of the first lessons is as important as the subject matter. A reading lesson adapted to the class that combines review and new words and that is interesting cannot be written on the blackboard upon the inspiration of the minute. The theme and the sequence of sentences should be carefully prepared before the lesson is given.

In the introductory conversation, pupils will say much that is entirely too difficult to use in the reading lesson. The thoughts, however, can be expressed in simple form, so that sentences like the following may perhaps be the first ones written on the board:—

I see a nut.
I see a leaf.
I see a bird.

I see a cup.
I see a seed.
The leaf is red.

The leaf is brown.	This is a rose.
The rose is red.	This is a bird.
The rose is white.	Fly, fly, little bird!
I see a red leaf.	My rose is red.
I see a red rose.	My rose is white.
Oh, see me jump!	My leaf is green.
Oh, see me run!	Where is the rose?
Oh, I can skip!	Oh, there is a bird!
Oh, I can hop!	Where is the bird?
This is a leaf.	Hop, hop, pretty bird.
This is green.	Where is the nut?
This is red.	Here is the nut.

Later, such lessons as the following may be prepared by the teacher for the use of the class:—

The sun

Oh, see the sun!	The sun gives light.
The sun is like a ball.	Oh, I like the sun.
The sun is like a sphere.	It makes me grow.
The sun is like a yellow sphere.	It makes the flowers grow.
How bright the sun is!	It makes the trees grow.
The sun gives heat.	It makes the grass grow.
	It makes the apples red.

Teachers may be tempted to delay too long on the same lesson in their desire to be thorough. The use of words in new relations is a better form of drill than too much repetition of one set of sentences.

For seat work, pupils should be supplied with boxes of words and boxes of letters. Words are easily struck off on the hectograph, or with rubber stamps. Or they may be cut from books that have the proper size of type. With this material, great variety in seat occupa-

tions is possible. The following exercises may be suggestive:—

Matching words to pictures.	Filling blanks in elliptical sentences.
Sorting words or letters.	
Making words from letters.	Making original sentences about some interesting subject or picture.
Arranging sentences from words or letters.	
Matching words to their initial letters.	Answering questions written on the board or on slips of paper or cardboard.
Grouping words that rhyme.	
	Copying verses.

Beginning the primer

After the first few weeks the sounds of letters and phonograms may be emphasized. This may be done by pronouncing simple words very slowly; as *n-u-t*, *c-a-n*, and so on. Pupils should listen and tell what word was said. Commands may be given, as *r-u-n*, *w-alk*, *s-i-t*, *bring the d-o-ll*. Pupils may give commands to one another in the same way. Words may be pronounced slowly as they are written on the board. These exercises should be given in periods other than those assigned for reading.

Sing-song reading, drawling, shouting, or mumbling ought not to be permitted. From the beginning pupils are able to speak and read with clear tones of voice and with distinct utterance.

Concert reading should have a very small place in school. Pupils can never learn to read by this method and bad individual habits are likely to be formed and confirmed. To arouse temporary interest or to

give variety to the lesson, it doubtless has occasional value.

The third month

Pupils of standard ability should be ready to read a primer or an easy first reader by the beginning of the third month. The blackboard will be used for teaching throughout the year.

After the pupils have been prepared by the lesson with the teacher and after they have been given a definite and stimulating assignment, they are ready to study silently the entire selection, the teacher assisting with such words or phrases as give trouble. Some difficulties that pupils meet are profitable for class discussion, others the pupil should be taught to help himself over.

Where there is uncertainty regarding the meaning of a new word, pupils should be trained from the beginning to let the general sense of the passage help them. This does not mean that they should guess; rather, they should infer. Guessing is thinking at random; inferring is substantial thinking. It is drawing a conclusion from definite data. For example, if this sentence occurred in a reading lesson, *A horse was eating hay*, and the pupil did not know the word *hay*, there would be no way to determine from the context whether it were hay, grass, oats, or any other food commonly eaten by horses. It would be best in this case not to force a pupil to guess, but rather to give him the word

at once, analyzing it into the phonogram *ay* and the consonant *h*, so that another time he might recognize it. On the other hand, if the sentence were, *The horse was drinking water*, the pupil could infer that the word was *water*, because a horse drinks nothing else.

When the entire selection has been mastered by the class through silent study, it may be read orally; not one sentence at a time, but by groups of sentences, or thought units.

The second half-year

The general methods of the first half-year should be continued. The stronger pupils ought to have read by the close of the year at least two primers and two easy first readers. In addition several other primers and first readers should be available for individual reading at the seat.

GRADE II

Pupils in the second grade take pleasure in reading independently of the teacher. In general, they are able to progress rapidly if too many difficulties are not encountered at the same time, and if they have access to several easy first readers. Besides the basal reader, three or four other first and second readers should be read by the stronger pupils.

A lesson that is to be studied should be assigned as a whole, generally by questions or suggestions written on the blackboard. According to the teacher's judg-

ment, the pupils may or may not write answers to these questions.

A short, spirited, interesting discussion may precede the oral rendering of a lesson that has been assigned for study. First the children should talk about the story as a whole. What is it about? Who can tell us in the fewest words? Then, Who is it about? Who is Teddy? Who is Betty? How do you think Teddy looks? Does the story tell whether he has brown eyes or blue eyes? Suppose he has brown eyes. Does it tell whether he has freckles? It is summer and he plays out of doors a great deal. Do you think he has freckles? How old is Betty? Does the story tell exactly? She does n't go to school. She is too little to go fishing with Teddy. Do you think she is six? Where does it tell that Teddy goes fishing? In this discussion the pronunciation, meaning, and use of words may be taught also.

After this examination of the thought, the oral reading may follow in the same or the next reading period.

Not all reading lessons, however, should be of this thorough sort, for one of the purposes of the teacher is to train a pupil to use a book intelligently by himself, to master the thought independently and quickly. There should be, therefore, frequent exercises in silent reading, not followed by oral reading, but by spirited questioning that does not go too much into detail. Its aim is to bring out the salient points, to make sure that

the silent reading has given a grasp of the selection as a whole.

The work that a pupil does at his seat is no less important than what he does in class. The habits of study formed in these early years will certainly either help or retard his future student life. The teacher must not be misled into the belief that the pupils will naturally apply in their private study the good methods of work that are employed in the recitation period. Most children, when left to themselves, will do as most grown people do. They follow the path of least resistance, and that is seldom the path of systematic, analytic study. The teacher, then, will need to teach the pupils how to set themselves tasks. Some of the following suggestions may be helpful: —

Make a list of new words. Of the people in the story.	Tell how many incidents it contains.
Of words hard to pronounce. Of words hard to spell.	Compare it with another story, and give reasons for preferring one or the other.
Of places in the story.	Tell which person you like best, and give reasons.
Of birds, flowers, or trees.	
Suggest a different title for the story.	

GRADE III

It is at this point that in many schools the definite work of the first two grades in reading gives place to the indefiniteness generally characteristic of the reading in the grammar grades. This indefiniteness is in purpose, in method, and in quantity.

Purpose. The teacher should aim to make each pupil independent, within the limit of his ability, in silent reading, recognizing the secondary importance of oral reading. To this end, he should be trained to attack new words methodically and with courage. He should be encouraged to look for the important, the large thought in what he reads. He should be helped to cultivate his own taste and exercise his own judgment, no matter how immature that judgment may be.

Method. In reading a sentence, pupils should by this time have been trained to read by groups of words, the grouping of words and phrases being determined by the thought. Training to this end should be continued. It is thoughts that are being read through the words. And because this is true, the reading of a selection also should be by groups of paragraphs, rather than sentence by sentence. If through silent reading and discussion the entire story is in mind, it will be natural and easy for teacher and pupils to think and read the story units, rather than haphazard broken fragments.

In a consideration of method in reading, the importance of posture ought not to be overlooked, for this has a positive influence on mental control. There may be no good reason for insisting that pupils always stand when they read, but there is every reason to insist on good posture whether the pupil is sitting or standing.

Quantity. As to the quantity of reading that may properly be planned for the third year of school, it

may be said that by the end of the year children who are not hampered by their customary use of a foreign language ought to be able to read nearly everything within the range of their individual or related experiences. This would mean that they will have a reading vocabulary of about one thousand words, and an ability to read intelligently much that contains scattered words outside of their reading vocabulary. That is, they should be able, after silent reading, to give the gist of reading matter within the thought limit referred to even though the meaning of some of the words must be inferred. In acquiring this degree of mastery over the printed page, pupils will need to read, in the course of the year, a basal reader and from four to eight others, besides the numerous simple and interesting books read at the seat and at home on which reports have been made in class.

GRADES IV-VI

Doubtless the judgment of some reliable students of education that, on the whole, the graduates from the grammar schools of this country have realized only a small fraction of their possible reading ability is not far wrong. For this deficiency the responsibility rests largely with the fourth, fifth, and sixth grades.

The charge cannot be made that insufficient time is given to reading, for ample time is devoted to it. The trouble lies in ignoring the preëminent importance of training in right habits of study; that is, in

thoughtful silent reading. Many teachers are almost entirely absorbed in oral reading, and this has led to an undesirable type of reading lesson common in schools.

Under this method one pupil after another rises and reads one or two paragraphs without previous study; and then states, either in his own words or those of the book, the fragment he has read. Incidentally, a few mispronounced words are corrected, a few inflections and emphases are modified, and possibly some paragraphs are re-read. After the selection has been read in this way, the entire story is occasionally reproduced by one or more pupils.

This method reminds one of the vigorous Scotch-Canadian dominie who put his class through their paces on *Lochinvar*. The dominie had a passion for correct inflection, and the first luckless youth got only as far as the line, "But *ere* he alighted at Netherby gate" — before the master's stern "Next, read!" stopped him. Two or three more, ensnared by the rhythm of the ballad, accented the *ere* and likewise went down. Exasperated, the dominie brought down his birch ruler upon the desk.

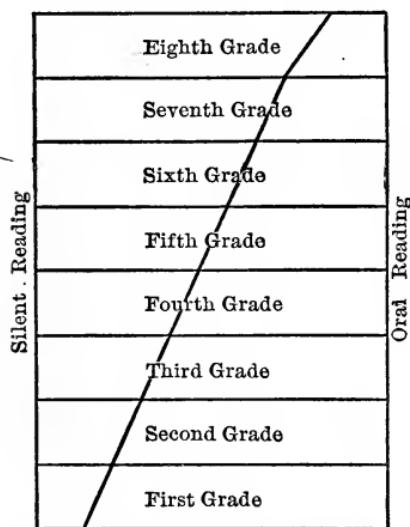
"*But ere!*" he cried, "*but ere!* Scholars! what the mischief is *but ere?* Is that the French for butter?"

Picturesque though this method may be in the hands of a seasoned teacher, its unfitness for training in good reading has been referred to before. It is particularly

important that intermediate and grammar grade teachers realize the unfortunate results that follow its use. By this procedure the story is pulled to pieces before it is comprehended as a whole, and later the whole is reproduced, generally with little attention to the relation of the pieces. Mental energy is focused upon the mechanical elements of reading, and the greater attention is directed to the least important of these, namely, to inflection, to emphasis, to the *the's*, *a's*, and *and's*. Such a method continued for several years must inevitably retard the development of thought-

getting ability — the prerequisite of good reading.

If, then, thought-getting is the vital element in reading, those methods must be used that lay stress on it and that are devised to develop skill in it. Because teachers are realizing this, they are giving silent reading and the study of the selection to be read much



Comparison of amount of oral and silent reading advisable in the various grades.

more attention than formerly. The relative place of silent and oral reading in these and the other grades of school may be roughly indicated by the diagram.

The study and silent reading lesson

The same principles are true in these grades and the same methods apply that were pointed out in the discussion of methods for primary grade teachers. (See pages 12-23.) But the methods must be adapted to grammar grade pupils. The teacher must constantly try to check scattered and superficial thinking. He must constantly remember that the pupil's mind should be trained to look for something definite; that he must be taught to select, compare, judge, exclude, appropriate, put together, and draw conclusions from what he reads. Otherwise he will merely read words mechanically, his thoughts busy elsewhere, or suspended.

To teach pupils how to discover this "something definite," how to set themselves problems and purposes in reading, how to read in such a way that their purposes will be realized and their problems solved, is the function of the study reading lesson with the teacher. Silent reading under the direction of the teacher gives opportunity for application of the methods used in the study lesson, and it should lead to an habitual use of the same thoughtful ways of reading when the pupil is by himself.

Several illustrative study lessons with the teacher are given here:¹

1. Subject — Who Killed the Otter's Children?

Directions written on the board:—

¹ These illustrations are drawn from lessons contributed by teachers in New Jersey to the State Monograph on the *Teaching of Reading*.

- (a) Read the story through rapidly.
- (b) Who did kill the Otter's children?
- (c) Find out what each of these animals did: otter, mouse-deer, crayfish, woodpecker, lizard, tortoise, king-crab. Be ready to give some idea of where each of these animals lives, and how it lives. Did you ever see any of them?

2. Subject — The Stone Cutter.

Directions written on the board: —

- (a) Read the story through.
- (b) Re-read, finding the places in the story where something important happened.
- (c) Name the people in the story.
- (d) Glance through the story hastily and find out how many wishes Hofus made.
- (e) What did Hofus learn?

3. Subject — A Little Hero of Holland.

Directions written on the board: —

- (a) Read the story through.
- (b) Think of two or three things that one ought to know in order to appreciate the story.
- (c) Who was the Little Hero?
- (d) In what paragraph is told the first important happening in the story?
- (e) Write on a piece of paper an outline of the story to help you in telling it.
- (f) From the story or from the picture, what do you think is the meaning of the following words: *dike, hero, mended, cheery?*

4. Subject — The Talking Saddle.

Directions written on the board: —

- (a) Read the story through.
- (b) Who is the chief character in the story?
- (c) What is the first thing we learn of Tip-Top that would make an important change in his life?
- (d) If we dramatized the story, how many acts would you make, and why?
- (e) Whom in the class would you choose for each part?

5. Subject — An Incident of the French Camp.

Directions written on the board: —

(a) Read the selection through several times.

(b) Look up in your dictionary the words, *waver*, *vans*, and three other words whose meaning you are not sure you know. Find the meaning that will fit into the story.

(c) Picture in your mind the person who has most to do.

(d) What is the most important paragraph in the story? Explain why you think it is most important.

These illustrations indicate what is meant by putting purpose into a reading-lesson assignment. The importance of purposeful reading has been emphasized by Dr. F. M. McMurry,¹ who quotes the words of John Morley, the eminent English statesman, and of Noah Porter, formerly president of Yale University. Says Mr. Morley: —

Some great men always before reading a book make a short rough analysis of the questions which they expect to be answered in it.

Mr. Porter supplements his statement with this: —

In reading we do well to propose to ourselves definite ends and purposes. The distinct consciousness of some object at present before us, imparts a manifold greater interest to the contents of any volume. . . . Any one is conscious of this who reads a story with the design of telling it to an absent friend; or an essay, or a report, with the design of using the facts or arguments in debate; or a poem with the design of reviewing its imagery and reciting its finest passages. . . . The private history of every self-made man, from Franklin onward, attests that he selected his books with distinct reference to the purposes for which he used them. Indeed, the reason why self-trained men so often surpass men who

¹ *How to Study and Teaching How to Study.*

are trained by others, in the effectiveness and success of their reading, is that they know for what they read and study and have definite aims and wishes in all their dealings with books.

To be sure, these are the testimonies of mature, scholarly men; but that is all the more reason why they are valuable. Reading habits that are recognized by successful students as of prime importance for successful reading are habits that should be established through the reading done in school.

The formulation of these reading purposes or problems requires the same study and thought as the statement of an arithmetical problem. In arithmetic, a banking transaction presents one type of problem, the measurement of quantity another type. In reading, the problem should be clear to the mind of the student, and the method of attack fully understood. This habit of purposeful thinking will awaken and hold the pupil's intellectual interest, will guide him in his study of a given selection, and will also control the teacher in his treatment of a lesson.

After pupils have had some training in reading under the control of problems given by the teacher, they may read some selections or chapters or books with the purpose of asking certain questions or stating certain problems to guide in further study. It is important, however, that before assigning a lesson for study without guidance the teacher is certain the pupils have had sufficient previous training in reading with definite and varied purposes in mind.

Mental preparation

The examples of lesson assignments that have been given also indicate that many selections require a mental preparation before they are studied. Children have not the maturity and the varied knowledge of the scholars whose words have been quoted. These men, after years of storing up knowledge and of mental training, know what they want before they begin to read. Children do not know, and they need to be put in the way of acquiring the reading power possessed by these men. When, therefore, a selection is to be read that calls for knowledge or interests not possessed by the pupil, these must be furnished. The mind must be opened and stimulated; it must be given a background on which it may paint its new pictures.

This mental preparation may be made in a variety of ways. The particular way selected will be determined by the teacher's knowledge of the pupils and by the nature of the selection. Several ways are here suggested: —

1. The teacher may give the idea of the story to the class in his own words, or give a part of the story, leaving the climax to be discovered in the reading.
2. The teacher may tell a similar story or describe a similar situation or experience or ask pupils to do this after the reading.
3. Pupils may be asked to select the passage that they prefer to read aloud.
4. The teacher may read for the class a peculiarly difficult passage, making plain by simple explanation or by interpretative reading the meaning of the difficult words, or of the passage as a whole.

5. If the story is located in a foreign land, the peculiar features of the country and of its life may be recalled.
6. If the story is historic, something of the historic setting may be given.

It is evident that a teacher cannot conduct a reading lesson that will be profitable for the pupils without preparation. The point and structure of the selection must be understood before the lesson. There must be a plan clearly in mind before the teaching process begins. This does not necessarily mean a written plan. But the teacher should know definitely what he expects to accomplish in each reading lesson and how he intends to proceed.

The oral reading lesson

Since it follows that oral reading should be secondary to silent reading, and that it should follow, not precede, discussion and silent reading, let us consider its two chief purposes:—

1. One may read to others to convey the thought of an author. Evidently the reader cannot convey the thought unless the words are familiar and the ideas have been at least partly assimilated.
2. One may read to a teacher, or a friend, as an exercise in learning how to read better. This exercise discloses words and passages that are not understood, and faults in expression. In this case an audience other than the teacher is likely to hinder the learner, and the audience is sure to be uninterested, if not bored.

Unquestionably much of the loss and actual harm in the ordinary oral reading lesson comes from an

attempt to combine these conflicting purposes. The common results are:—

- (a) An inattentive audience of pupils, with a tendency for the intelligent members to "read ahead" and "lose the place."
- (b) Interpretation first, discussion and understanding second.
- (c) Hurried and inadequate helping of the poor reader.
- (d) Little training that results in better oral reading.
- (e) Little or no training that results in better thinking.
- (f) Frequently the training of readers in poor mental habits.

Therefore, all oral reading by pupils should be either of matter that has been well studied, or of matter so easy that it can be read intelligently without study. If there is no good reason for reading a selection aloud, it should not be so read. If the meaning or the beauty of the selection is best revealed by an oral rendering, such an interpretative reading of selected passages will help to fix it in the minds of the pupils.

Of course sight-reading, or oral reading without preparation, has its place in school as it has its place in life, and a similar place in both situations. But no one in the family circle would attempt to read aloud a magazine article, a poem, or a book so difficult in vocabulary and thought that he must read it haltingly. He selects that which can be understood and interpreted without previous study. The thought is in a well-known field, the style is simple and direct, the vocabulary familiar. No hesitating and unintelligible reader is long tolerated.

In school the same standards apply. Little or no sight reading ought to be done unless it can be done well. If a selection can be read at sight in a way that will hold the attention of the class, then the reader's classmates may very properly be asked to close their books and listen. Otherwise, the selection should be studied.

Good selections for sight reading may be found in new books furnished to lower grades, or in informational books of various kinds. The story of Pinocchio, for instance, would be greatly enjoyed by sixth or even by eighth grade pupils who have not read it. The appealing fancies and flowing lines of Field, Stevenson, and Riley are enjoyed by children of all ages.

Here it may be noted that the overrating of the importance of oral reading in school has led to its misuse as a yardstick for measuring a pupil's general mental ability. Success or failure in this has too commonly determined a pupil's right to promotion.

Many and extensive studies of the comparative ability of school children have conclusively proved that the use of reading — or of any other single subject — as the sole or chief factor in determining promotion is likely to be unjust alike to some who are promoted and to some who are retarded. Moreover it would seem to be quite unfair and inconsistent to judge a kindergarten child's abilities one day by his

mental and his physical control, by his initiative and leadership, by his intelligence in solving the problems of the kindergarten activities; and on the next day when he has but crossed the threshold into a room labeled "First Grade" to judge him solely by his ability in oral reading. If the practical activities are valid measures of ability in the kindergarten, they ought not to be ignored in the subsequent grades.

That oral reading is likely to be a misleading indicator of general ability is illustrated by a recent report from the Laboratory of Experimental Education of the University of Chicago. A teacher was requested to select for experiment three second-year pupils. She chose A, one of the best oral readers in the class; B, a medium reader; and C, one of the poorest. After the experiment, the regular teacher was asked how these children stood in their other school work. She stated that A, the best reader, was much below the average in all her other school work, had no initiative, and could never be depended upon to do a piece of work. B, the medium reader, was also below the average, but was a good faithful plodder. C, the poor reader, was above the average in all her other school work and always took the initiative.

All experienced teachers have doubtless had many such pupils, fluent in oral reading, but grading "average" or "poor" in other particulars; and also many who are poor oral readers but are substantial thinkers

and efficient in practical ways. All will agree that ability to think is more useful than ability to say words. The former, therefore, should receive the larger recognition and be given the greater credit in school.

GRADES VII AND VIII

Pupils beginning the seventh year of school should have had practice in "true reading." If they have not had this practice, the work that can be done in the last years of the elementary grades must necessarily be on a lower plane, and consist largely in giving this practice. It sometimes — possibly frequently — happens that pupils reach this point in school so lacking in reading skill that it may be said that they cannot read. For such all other purposes ought to be subordinated to that of teaching them to read before they leave school.

What to read

The selection of reading matter for these grades is often a vexing problem. Pupils' tastes and their ability to read cannot be ignored, neither should they be used as the sole guides. Probably no two people would agree in their selection of those books that best represent the limited body of literature with which all elementary school children should become somewhat familiar. The following list was drawn from a large number of courses of reading for seventh and eighth

grades, and represents therefore the judgment of many teachers on this subject: ¹

Baldwin.....	<i>Story of Roland.</i>
	<i>Story of Siegfried.</i>
Bunyan.....	<i>Pilgrim's Progress.</i>
Burroughs.....	<i>Birds and Bees.</i>
	<i>Sharp Eyes.</i>
Clemens.....	<i>Prince and Pauper.</i>
Cooper.....	<i>The Spy.</i>
	<i>Last of the Mohicans.</i>
Dana.....	<i>Two Years before the Mast.</i>
Dickens.....	<i>Christmas Carol.</i>
	<i>David Copperfield.</i>
	<i>Cricket on the Hearth.</i>
Franklin.....	<i>Autobiography.</i>
Hale.....	<i>The Man without a Country.</i>
Hawthorne.....	<i>The Great Stone Face.</i>
Hughes.....	<i>Tom Brown's School Days.</i>
Irving.....	<i>Sketch Book.</i>
	<i>Legend of Sleepy Hollow.</i>
Kipling.....	<i>Captains Courageous.</i>
Lamb.....	<i>Tales from Shakespeare.</i>
Longfellow.....	<i>Evangeline.</i>
	<i>Miles Standish's Courtship.</i>
Lowell.....	<i>Vision of Sir Launfal.</i>
Macaulay.....	<i>Horatius at the Bridge.</i>
Scott.....	<i>Lady of the Lake.</i>
	<i>Ivanhoe.</i>
Shakespeare.....	<i>Julius Cæsar.</i>
	<i>Merchant of Venice.</i>
Stevenson.....	<i>Treasure Island.</i>
Whittier.....	<i>Snow-Bound.</i>

In this list there appears to be no reference to the so-called "reading book," composed of miscellaneous literary selections and fragments of selections. These,

¹ See *Elementary School Teacher*, December, 1913.

however, should not be discarded. The testimony of adults regarding the value of a good collection of this character in their early school life is too general to be ignored. One or two such miscellaneous readers should be available for seventh and eighth grade classes. No set number of pages should be prescribed for each class, however; for it may be best for some classes to make slight use of them while others will profit by a larger reliance on them.

Newspapers and magazines also should have a limited place in school reading, but it is questionable whether time should be given to these in the regular reading period. The place for them is rather in the geography, the history, and the current events periods. In any case, they should be used with discrimination. The teacher should try to cultivate good judgment on the part of the pupils in selecting extracts for reading. Newspapers particularly cannot be used too generally in school, because of the indiscriminate nature of the "news" they contain. On the other hand, many selected articles may be of great help in stimulating interest and throwing a present-day light on large human questions.

It will interest the pupils, too, to give them some idea of how news is gathered and how this reading matter, hot from the press, is made. If possible, it would be a good plan to take the pupils to visit the plant of a metropolitan newspaper. The orderly confusion of the "local room"; the nervous clatter of

the typewriters turning out the copy for to-morrow's paper; the intricate puzzle of the composing room where the copy is cut into slips, or "takes," and distributed among a dozen linotype operators; the deliberate swiftness of the great cylinder presses flinging out the fresh printed pages — all these give the child a new conception of the importance of the page that he reads.

How to read

Another suggestion that may be drawn from the experience and observations of scholars and teachers relates to method. Three writers of authority may be quoted on this point. Bacon's dictum is familiar: —

Some books are to be tasted, others to be swallowed, and some few are to be chewed and digested: that is, some books are to be read, but not curiously; and some few to be read wholly, and with diligence and attention.

Dr. Hall carries this idea a step further, when he speaks of the comparative value of the reading and the study of a book: —

The current detailed study of a few standard texts I believe to be often pernicious. To be intensive, reading must be extensive. There should always be a glow and heat about it. To *study Ivanhoe*, instead of passing on to others of Scott's novels, is working with dulled tools. Did this critical study ever prompt a student to read another of the same author?

How many of us have thoroughly disliked the *Merchant of Venice* because of the laborious hours we spent analyzing the characteristics of Portia; decid-

ing how many times *truth* was exemplified on a page, and how many times *beauty* was displayed; and counting the number of Anglo-Saxon words in Jessica's bewitching "On such a night" speech! How many of us would have enjoyed plucking up one of the *Stones of Venice* and heaving it at the unoffending shade of Ruskin! Now that it is our turn to sit in the teacher's chair, let us remember our past experiences and be merciful.

Chubb says: —

If much labor on words, constructions, allusions and so forth (those precious *minutiæ*) is needed in order that a work may be understood, then it is mischosen for the grade.

The chief recommendation here is to cover a somewhat extended field of reading rather than to consume the time and energy of the pupil on exhaustive studies. In the previously given list of books to be read there are none that Bacon would have classed among those worthy of being "chewed and digested." Rather, they are of the sort to be "tasted" or "swallowed." Pupils are being trained in the diligent and curious study of books in their mathematics, history, hygiene, and other textbook subjects. In the reading lesson, let the aim be to awaken in them a genuine love of reading and to lead them into the broad fields of good literature.

It follows that not the largest part of the class time can be devoted to oral reading, and that no large fraction of the literature time of any one term can

be allotted to any one poem or book. The class time should be given to directing and discussing methods of reading, testing the quality of thought put into private study, reporting on impressions and points of view gained by pupils in private study, and to the reading of selected passages orally — some selected and read orally by pupils, some by the teacher. Some books should be allotted only one period for discussion; others may call for two or three periods; but few, if any, books or poems will return a profitable yield for an expenditure of eight or more lessons.

The effects of this sort of study of literature are somewhat intangible and difficult to measure. Still, they may be perceived. There should be a broadening, a deepening, an enriching of the personal experience through this contact with literature. Pupils should grow in their liking for reading. They should show reading preferences — not necessarily the teacher's preferences. Their other studies should show the effects of the mental training received in the reading lessons; their compositions should have refinements that would be lacking but for this appreciative study of the writings of the masters of composition. These effects may not be perceptible from day to day, but they should be evident from term to term not only in the class as a whole, but in varying degrees in each pupil.

Memorizing

A store of memorized selections is another most desirable product of the study of literature. A small boy was once required to wait for an hour or two while his elders were busy elsewhere.

“There is n’t a thing for you to play with,” reflected auntie worriedly. “You’ll be bored to death, Jimmy.”

“Oh, no,” said he with quaint gravity. “You see, I like to play with my mind.”

Jimmy had been fortunate in having a mother who put him to sleep in his baby days with old Scotch ballads, said or sung. Before he could walk, he was familiar with *Lord Ullin’s Daughter*, and *Sir Patrick Spens*, and almost as soon as he could talk he began to learn such things as the simpler bits from *A Child’s Garden of Verse* and Christina Rossetti’s child poems.

The memorizing of good verse should begin in the first grade and continue through the course. The selections should be made, first for their intrinsic worth, and second for their beauty and their appeal to the particular grade and the individual pupil. One child may revel in quaint fancies, like: —

I met a little elfman once,
Down where the lilies blow.
I asked him why he was so small,
And why he did n’t grow?

He slightly frowned, and with his eye
He looked me through and through.
“I’m quite as big for me,” he said,
“As you are big for you!”

Another may scorn John Kendrick Bangs and his elf, preferring to order up the halberdiers and let the portcullis fall! Many a knightly heart beats high under a polka-dotted pinafore.

It is of primary importance that a pupil understand the thought before beginning to commit a selection to memory. He may not appreciate fully the significance of every passage, but it should convey sense to his intelligence, or he should not learn it.

Pupils should be taught how to memorize a selection. They should first view it as a whole and feel its beauty through the teacher's reading. Together, teacher and pupils will resurvey it for the story. The teacher will help the pupils to visualize the pictures and to view incidents and descriptions in the light of their own experience. The selection will then be learned, not word by word, but by groups of words as they express the thoughts. Children will often learn poems at their play. Two seven-year old girls on the back porch were overheard one day teaching *Wynken, Blynken and Nod* to each other and to their dolls. One child supplemented the other, each learning carefully the lines she did not have by heart, and subsequently "teaching" the poem to a row of dolls, who frequently needed to be spanked for stupidity.

Short selections are better than long ones for memorizing, and differences in pupils' ability to memorize words should be taken into account by the teacher when he is assigning this work.

Time allotment

For the reasonable accomplishment of these results from the study of literature, a large amount of class time is not required. Three periods per week of thirty minutes each is enough, when the importance of literature is put over against the many other studies and interests of the school that demand attention. A balance in the pupils' school life should be maintained. Neither the literary enthusiasm nor the literary indifference of the supervisor or of the teacher should operate to disturb this balance.

Use of libraries

But the reading books and all the other textbooks combined cannot supply the amount of reading matter that children should have. The library is an indispensable adjunct of the school. Of all possible libraries, the most important is the home library; but it is likely to be wanting where most needed. In many homes there are no books at all. In others, the bookcase is filled with the publications of former generations typified by Dr. Dosem's *Complete Family Physician*, Upham's *Life of Faith*, E. P. Roe's novels, and the *Proceedings* of various societies.

The most useful for school purposes is the school library. No schoolroom should be without a set of books adapted to the tastes and capacities of the pupils and large enough to allow a new book to each

child at least once in four weeks through the school year. This library should contain a few books that bear upon the school studies. It should have an honorable place in the schoolroom and should be kept free from dust and in good condition. Pupils will gain much valuable training if they are taught to care for this library and to act in turn as librarian.

A schoolroom library that is changed from time to time is doubtless better than one which is permanently fixed. Sets of books may generally be borrowed from a near-by town or city library, or from the state library. In rural districts, when loan libraries cannot be had, small sets of books, purchased with funds locally raised, could be moved from school to school, so that in the course of a year each pupil in the district might have the benefit of all the books.

Undoubtedly, most of the reading of library books should be done at home. Freedom to use story-books in school is a temptation to neglect the proper study of lessons. Home reading should be encouraged and to a degree influenced. The time of a regular reading or oral composition lesson may be devoted with profit occasionally to a discussion of books read at home. If a pupil is found to be reading too much, and to be absorbed in the amusement type of book, the teacher may often interest him in more substantial reading. The omnivorous reader may be the superficial one, although this is not always true. Superficiality in many cases is the result of neglect by elders.

In schools where there is not an adequate supply of reading matter, the school library may be drawn upon for class work. Each pupil may be assigned, or may select, a book upon which a report will be given in class, and from which selections may be read aloud. Thus the class as a whole will come to have a slight acquaintance with more authors and books than any one pupil will read. In the upper grades these reports may take the form of short book reviews, a composition exercise that will give variety to the pupils' written exercises and interest them in the book-reviewing departments of daily papers and magazines.

While the home and the school libraries are much more useful and more generally useful for school children, yet the public library, by reason of its large resources, its variety of reference books, and its card indexes, is a place that they ought to know well. Pupils may be sent there to gather material for debates, for information not found in their own books, and to read the biographies of the authors whose works they are studying. They may also borrow other books by the same authors, for it is desirable that, while studying literature, pupils should be making friends of the writers of literature. They should have favorite authors as well as favorite books and poems.

While literature has been in mind for the most part in discussing seventh and eighth grade reading, it will not be forgotten that other interests besides those which are literary may draw pupils to the library. In

a school made up of practical-minded pupils of these grades, the reading habit grew out of their manual training interests. Catalogues of tool-manufacturing concerns, of paint and hardware supply houses, of furniture and boat manufacturers, were sent for. Sets of twenty of the best of these were secured for class use. Before long, one member of the class after another found his way to the library in search of books and magazines relating to arts and industries.

There is perhaps no better summary of this entire chapter on the teaching of reading in the elementary schools than the words of James Russell Lowell on the use of libraries and books. The writing of the chapter has been for the sole purpose of indicating the means and methods by which these universally desired results may be attained.

After all, the better part of every man's education is that which he gives himself, and it is for this that a good library should furnish the opportunity and the means.

For remember that there is nothing less profitable than scholarship for the mere sake of scholarship, nor anything more wearisome in the attainment. But the moment you have a definite aim, attention is quickened, the mother of memory, and all that you acquire groups and arranges itself in an order that is lucid, because everywhere and always it is in intelligent relation to a central object of constant and growing interest. This method also forces upon us the necessity of thinking, which is, after all, the highest result of all education. For what we want is not learning, but knowledge; that is, the power to make learning answer its true end as a quickener of intelligence and a widener of our intellectual sympathies.

Reading tests

In view of the large place that reading holds in school, it is natural that the subject of reading tests and reading standards should be occupying the serious attention of students of education. Standards of penmanship were the first to be formulated. Then followed standards of high-school composition writing; and of elementary arithmetic; and of a somewhat indefinite sort there are standards of spelling. None of these is yet final, none of them is universally recognized as valid, and few teachers have the training to apply them scientifically. But they tend to influence school practice and teachers' judgments, as a "governor" influences the action of a machine and the interaction of its parts. And they will have this influence more and more, reducing overspeeding, accelerating to efficiency-speed, regulating to capacity-production.

But while these standards and tests in reading are being formulated, the less scientific tests should not be neglected. If it is not yet possible to state what pupils ought to be able to read at any given time, every teacher may make sure that each pupil has made progress in a term or a half year; or, if little or no progress has been made, the probable reasons are discoverable. Therefore tests to measure progress should be given at definite times. If these are too frequent, progress will not be evident; if they are given but once a year, they are less helpful as guides for the teacher.

These tests should be on each point that is important in good reading. There should be a test on study habits to discover whether or not each pupil reads with a purpose and analytically when he reads by himself, independent of guidance. Ability to grasp the main point or points by silent reading should be tested, and the speed with which this is done. Finally, there should be tests in oral reading for pronunciation, fluency and expression, with relatively simple matter selected for this particular purpose.

COLLATERAL READING

1. *On some questions relating to reading:* —
 - (a) *The Psychology and Pedagogy of Reading.* E. B. Huey.
Introduction, pages 10-11.
 - (b) *The Fourteenth Yearbook of the National Society for the Study of Education.*
Part I, pages 17; and 147-51.
2. *On oral and silent reading:* —
 - (a) *The Psychology and Pedagogy of Reading.* E. B. Huey.
Chapter XVIII, pages 359-61.
 - (b) *Culture, Discipline and Democracy.* A. Duncan Yocom.
Chapter V, pages 152-56.
 - (c) *Social Education.* C. A. Scott.
Chapter IX, pages 214-21.
3. *On teaching reading as thought:* —
Teaching the Language Arts. B. A. Hinsdale.
4. *On literary appreciation:* —
The Appreciation of Literature. George E. Woodbury.
Chapters I and VII.
5. *On the rate of reading:* —
 - (a) *The Psychology and Pedagogy of Reading.* E. B. Huey.
Chapter IX.
 - (b) *The Fourteenth Yearbook of the National Society for the Study of Education*
Part I, pages 44-58.
6. *On the use of the library:* —
The Psychology and Pedagogy of Reading. E. B. Huey.
Chapter XVIII, pages 365-70.

7. *On dramatization:* —

The Dramatic Method of Teaching. Harriet Finlay-Johnson.
Chapter VII.

8. *Primary seat-work:* —

Teaching Children to Study. Olive M. Jones.
Chapter IX; Chapter XIII, pages 175-89.

9. *Type lessons for the eighth grade:* —

The Teaching of English (The Elementary Course). Percival Chubb.
Chapter X, pages 161-72.

Also the following books: —

Illustrated Phonics. M. I. Ives.

A manual of physical and voice exercises to correct and improve articulation. Fully illustrated.

Reading in Public Schools. Briggs and Coffman.

Reports of type-lessons in reading and memorizing actually given in the schoolroom. Very suggestive.

Blackboard Work in Reading. Ida E. Finley.

An excellent guide for lessons of the first six weeks. Type lessons with teaching analyses.

Teaching Poetry in the Grades. Haliburton and Smith.

Discussion of method and a number of type lessons for each grade. Very definite and helpful.

Common Speech

First, then, "look well to your speech." It is commonly supposed that when a man seeks literary power he goes to his room and plans an article for the press. But this is to begin literary culture at the wrong end. We speak a hundred times for every time we write. The busiest writer produces little more than a volume a year, not so much as his talk would amount to in a week. Consequently, through speech it is usually decided whether a man is to have command of his language or not. If he is slovenly in his ninety-nine cases of talking, he can seldom pull himself up to strength and exactitude in the hundredth case of writing.—(From *Self-Cultivation in English*, by George H. Palmer.)

Special instruction in language and composition should be accompanied by concerted efforts of teachers in all branches to cultivate in the student the habit of using good English in his recitations and various exercises, whether oral or written. —(*Harvard College Entrance Requirements, 1915, 1916, 1917, 1918.*)

I am a believer above all things in the use of correct, and indeed choice, English, and feel that nothing perhaps in the matter of salesmanship can conduce to success more directly than a large and flexible vocabulary. The ability to drive a point home through a variety of ways in saying the same thing, which can come only through a free command of varieties of style of speaking, of synonyms, etc., is a tremendous asset, and I would therefore advise you to speak with great insistence on the importance of a careful and conscious study of one's everyday language, to the end that it may not become monotonous in style but rich and variegated.— (*Letter from an American banker.*)

Not only literary power, as Professor Palmer points out; not only scholastic success, as is indicated by the recommendation of the Examining Board of Harvard University; but also social and business advancement, as is shown by the words of the man of affairs, depend much more than is commonly supposed on the quality of one's conversation. If, then, practical considerations are to control in the teaching of other phases of English, as it has been pointed out they should control in the teaching of reading, careful attention must be given to the common speech of pupils.

Fortunately the elements in common speech that are susceptible of improvement by training are not numerous. There are certain subtle personal qualities that appear to be inherited — such as mental capacity, alertness, receptivity, inventiveness, and a sense of humor — that may perhaps be cultivated, but cannot by any process of training be created. On the other hand, a pleasing quality of voice, a good use of words

and sentences, and — that which is fundamental to all pleasing conversation — a good physical posture, may be acquired by instruction and training.

The teacher's influence

Because children are children, they reflect to a degree the teacher's postures and manners, and their speech echoes his. If the teacher's attitude in sitting and standing is controlled and pleasing; if his voice is of good quality; if his English is correct, and free from slang and provincialisms, these qualities will become evident in the conduct and speech of the pupils. These refining influences the teacher can exert without being over-nice or pedantic. If his daily walk and conversation are not thus influential, precepts and criticisms of pupils' faults will be largely in vain.

Instruction and training

But this influence, no matter how definite and continuous it may be, cannot be relied upon to accomplish by itself the desired results. It must be reinforced by systematic instruction and an abundance of practice.

Instruction in the proper use of the voice may be given in the reading lessons, but what is taught there should be applied throughout the school day. If necessary, special practice should be given to groups of pupils until they habitually open the mouth when speaking and produce a clear tone of voice and a distinct utterance.

Doubtless the enlarging of the working vocabulary of pupils, the eradicating of common errors of speech and improvement in the use of sentences will be accomplished best in the regular recitations, where, also, the specific instruction given in spelling and composition periods will be put into practice.

The pupils themselves will be efficient aids in discovering their own errors and in devising methods of interesting drill upon the correct forms of expression, if the teacher will make them his partners. In fact, one teacher found to her surprise that this supposedly dry and uninteresting feature of language work turned out to be the attractive avenue to her composition lessons for which she had long been looking. The avenue was discovered through a request to teachers from the principal of the building to prepare for him lists of their pupils' common errors in speech. The lists were to be used in making a series of exercises in correct speech for the different grades. This teacher explained the principal's plan to her fourth grade pupils, and asked them if they would like to help collect the errors. They agreed that they would, and she then asked how they might set about it. She made a suggestion to start their thoughts moving, and then they proposed a variety of plans. Finally it was decided that each pupil was to become a detective for the discovery of errors in speech, not only in the schoolroom but on the playground as well. For two weeks there was no lack of material on which to work. During this time the

common errors had been collected, discussed, and the correct expressions put upon the board. It was then proposed to have each pupil change his character of detective into that of a policeman. For another two weeks any pupil could politely "hold up" any other pupil, or even the teacher, if a mistake was discovered. The teacher confessed that she occasionally made a mistake in speech and in writing on the board to keep up their interest and alertness. One pupil finally proposed that the different rows compete in correct speech, and the plan was worked out by which each row kept watch of all the other rows, and all the pupils kept watch of the teacher. The records were posted on a bulletin at the close of each day. Thus by the end of about five weeks these pupils had become thoroughly alive to the values in words and sentences, and the teacher very wisely dropped this particular feature of language training before interest flagged, transferring the interest to the composition lessons.

Specific practice in the use of correct forms of speech may be given in brief concert and individual exercises. These should involve the correct forms only, a child, or the class, repeating again and again such forms as *The boys are here*, *The boy is here*, *Mary does n't wish to ride*, *Is n't the baby looking well?* *There are six of us*, *I saw the sun set*, *He ate his dinner*. The black-board should be used constantly to illustrate and emphasize the correct forms.

Language games may be employed also. The fol-

lowing have been used with profit, and others may be thought out by the resourceful teacher:—

A boy leaves the room. He appears at the door and vanishes. The pupils may say, "I saw John [not "I seen"] at the door," repeating it several times. The teacher may draw a line, and the pupils may say, "You draw a line," "The line was drawn," "You drew a line," and so forth. Pupils may make their own statement as they perform actions, as "I lay the book on the table" (at the time of doing it), "I lie down," "I sit down," and so forth. One pupil may break a stick, and another at the board may write, "John has broken the stick," or, "The stick was broken," and so on. Nearly all of the irregular verbs may be taught in this objective way.

To illustrate the use of adjectives two of the pupils may stand together, and pupils at the board may write, "John is the taller of the two," or, "Henry is the tallest of the four boys."

The case forms of pronouns may be taught dramatically. One pupil may go outside the door and knock, and another may say, "Who is it?" and the first may say, "It is I." Then the teacher may say to the school, "Who is it?" and the pupils may say, "It is she," "It is he," in reply.

In the game, "Who is it?" a pupil leaves the room. A ball, or some other object, is given to one of the pupils, or by a touch the teacher designates one of them as "it." The pupil now returns to the room and is to find who has the ball, or who has been chosen, by asking, "Who is it?" The teacher indicates the row in which the questioning is to begin, otherwise too much time may be consumed in finding the one who has the ball. Beginning with the first pupil in the row, the child asks each in turn, "Who is it?" The pupils reply, "It is I," or "It is not I." Another pupil may leave the room and on returning may ask the question, "Is it Mary?" "Is it George?" and so on. The class reply, "It is she," "It is not she," "It is he," as the case may be.

All that the school may do to improve the speech of children will be comparatively ineffective without the

coöperation of the home. Some superintendents have invited this in circular letters, that explain briefly the importance of the right use of English and suggest some of the common errors that it is well to avoid.

Training in the construction of sentences is given in the thoughtful forming of answers to questions in recitations. Not that all answers should be full statements. To insist on this will produce a stiff, clumsy style of schoolroom English. The standards of good conversation should be the standards governing a recitation. As pupils advance through the grades they will have additional training in the use of good English through dramatization, the topical recitation, and reports on home readings, on current events, and on school excursions.

To make the recitation a means of improving the pupils' spoken language, the teacher must subordinate himself. The recitation must belong to the pupils. They must do the talking, not the teacher. Theirs must be the responsibility for logically, coherently and interestingly presenting the subject or topic before the class. Thus through their own abundant use of language, under the control of their own critical judgment, they will grow in courage and in skill in the expression of their thoughts. Progressively their sentences will be relatively correct; and the use of simple, compound and complex sentences in pleasing variety will become natural and habitual in all recitations.

While it may seem that physical posture is more

nearly related to conduct and to health than to common speech, it is yet unquestionably true that physical control of the body has a direct and a positive influence on mental control, and that mental control is essential to clear and consecutive thinking and speech. Therefore, in all other recitations, as well as in the reading period, pupils when they rise should stand erect on both feet, with head up and hands at the sides of the body, and with the body free from the desk. They should habitually face the person or persons to whom they are talking, as in ordinary conversation. If they are seated while talking — and this should be allowed often — they should sit without lolling on the desk.

Language expression has so close a relation to all mental processes that training in it will give a more general mental stimulus than training in any other subject. The story of Helen Keller is the story of the awakening and developing of a mind through verbal expression. Not until she began to know words and to use them did she take interest in the world, understand it or enjoy it; and mental growth progressed as training in the use of verbal language progressed. But one's own personal experience also is available to prove that talking about an idea makes the idea clearer and causes it to unfold in the mind. Discussing a book gives a firmer mental grasp of its contents and impresses the ideas on the mind so that they are remembered better. Teaching a fact to another, that is, verbally explaining it, gives that fact a new significance. The very effort

to put a thought into words compels the mind to act more carefully and by this greater concentration of effort it is strengthened and developed. It is true also that mental enjoyments are intensified by expressing them. The pleasure derived from an experience, a picture, a book is increased by sharing it with a friend. So that in spending time and thought upon the improvement of the common speech of pupils, the teacher is refining the tone of the school, he is putting his pupils into command of their own mental abilities, he is enlarging their capacity for enjoyment, and he is cultivating in them a most practical art.

If all teachers, both in elementary and in high schools, realized the importance of training pupils to talk well, every recitation would become an exercise in the use of good spoken English. Then there would be as vigorous criticism of English in arithmetic and geography as in language lessons, and nowhere in the school would slovenly English be tolerated. Every teacher would be a teacher of English.

COLLATERAL READING

1. *On language training:* —
 - (a) *How We Think.* John Dewey.
Chapter XIII.
 - (b) *Teaching the Language Arts.* B. A. Hinsdale.
Chapter III.
2. *Language training through all school subjects:* —
Linguistic Development and Education. M. V. O'Shea.
Chapter X, pages 242-45, and 258-59.

Composition

Composition and common speech are quite unlike. The latter may be fragmentary and disconnected, and its purpose may be quite indefinite. On the other hand, a composition is a thought and language structure, whose parts are carefully arranged and joined according to a plan, the plan itself being determined by a definite, preconceived purpose. Composition is the solving of language problems, as much as arithmetic is the solving of mathematical problems, or as architecture is the solving of building problems.

The nature of the particular problem in a composition should appear in the title. The more restricted and limited the subject, the better it is as a problem. It is not enough, for instance, to have for a subject "Animals." This is too large, and will lead to miscellaneous rambling talk and writing. "Animal Habits," or, better still, "Habits of My Pet Dog" will compel closer thinking and better composition planning.

Again, if the subject "Nests" is under discussion and a boy can be led to examine real nests by centering his interest on one phase of the subject, such as "Nest-building," he may be led to interesting and suggestive discoveries. One boy, for example, found that a certain kind of nest was made of grass, and another largely of strings. In his composition he wrote, "The nest with the strings, I think, was made in the city. The other one was made in the country."

In addition to thus limiting the subject and establishing a definite point of view, it will be conducive to better composition if the question "To whom, or for whom, am I writing?" is in the writer's mind. It is evident that if a pupil while discussing the habits of a pet is trying to interest a younger child, or an uncle who is a hunter, or an aunt who is fond of pets, a more telling, a more pointed composition will result than if he is writing to no one in particular.

To lead pupils thus to focus their thinking and to choose and arrange words so that their ideas are clearly and interestingly expressed within prescribed limits, is no simple or easy task. Perhaps no other subject presents such difficulties for the teacher as does composition. In the first place, the available material is as varied as is human experience. Whatever may be seen, heard, or sensed in any way; whatever may be thought or felt of pleasure or pain; whatever may be imagined or fancied; all is proper grist for the composition mill.

Then, there are other difficulties due to the lack of widely accepted composition standards. Some may approve a given composition, while equally competent people may think lightly of it. Again, people, and especially children, are naturally careless in the use of language, and this has produced undesirable language habits and indifference to its thoughtful use. But perhaps most serious of all difficulties is the fact that verbal expression is the highest and most subtle form of

expression. Primitive man reveals his simple ideas through gesture, facial expression, a few significant sounds and crude pictures. Multiplicity of words has come with complexity of experiences due to civilization, and for only a few persons does the art of verbal composition, and even more particularly written composition, seem to be natural and easy. Most persons, and many educated ones at that, never become as proficient in writing as in speech.

But while the limitations of the average mind will not allow many to become great writers, nevertheless all will profit by intelligent training. In fact, although any one composition, or, indeed, all the compositions, oral and written, in school may have in themselves no value whatever to any one who may listen to or read them; yet if the writing of them engages the pupils in clear, logical thinking, and in thoughtful expression upon definite, limited subjects of immediate interest and importance, composition becomes one of the best means at the command of the teacher for general mental training.

The teacher's place and function

The immaturity of pupils, a daily program and a course of study whose demands are exacting, create a situation in which the teacher is tempted to occupy too large a place. Too often he talks when the pupils ought to talk, and he does the work that they should do. It takes more time to train pupils than it does to give

them information, and the former is a much more difficult task. While in all school activities an attitude of self-restraint is maintained by the teacher who is ambitious to be most useful to the pupils, this attitude is a fundamental condition for successful accomplishment in the teaching of English composition, because the composition exercise is not to train the teacher in language expression, but to train the pupils. He will take his part in the discussion only in so far as he is needed to suggest, to direct, to inspire, and, at the proper time, to instruct. It is hoped that the suggestions that are made in succeeding pages may be helpful in showing how responsibility in composition work may thus be transferred in part from the teacher to the pupils.

ORAL COMPOSITION

Logically, oral composition precedes written, and it is by far the more useful for training in the proper use of language. The first thinking on a subject finds its natural expression in spoken rather than in written words. But the first thinking and expression need refining by the process of composing. By oral discussion and oral restatement, all the qualities that ought to be found in the written composition may be developed, such as choice of words, good quality and variety of sentences, arrangement of sentences in a paragraph, and arrangement of related paragraphs. Moreover, as has been emphasized before, oral com-

position has a greater influence in improving common speech, than has written composition. While the general recognition of the proper place of oral composition in language study is comparatively recent, its use is to-day growing very rapidly even in high schools.

The oral composition lesson requires more teaching ability than the old-fashioned lesson consisting of the assignment of subjects upon which pupils were to write without preparation. The teacher's task in such an exercise was laboriously to mark mistakes in each paper, generally in the evening hours, and the next day to have the papers rewritten with the mistakes corrected. This wasteful and uninteresting procedure is rapidly giving way to the more effective methods by which composition skill is developed through oral expression and oral criticism, and pupils are trained in the habit of self-criticism. Self-criticism, discussed in another place, makes of each pupil a discoverer and a corrector of his own mistakes, leaving the teacher free to become in the true sense a teacher.

To illustrate how these results may be realized through oral composition, several exercises are here described, selected from the four divisions or classes of composition: narration, description, exposition, and argumentation. While it is not important for pupils in the lower grades to know that they are composing now a narrative, and now a description, it is well for the teacher to understand these various types so that balance and variety may be given to the year's work.

Narrations

In narration, the teacher will have exercises in conversation, in story-telling, in relating incidents, happenings, and biographies.

Conversation exercises cannot be engaged in by the entire class at the same time. Three to six pupils should be selected, who may take seats at the front of the room. The conversation is on a subject that has been agreed on beforehand, and it progresses as in ordinary life, helped and guided by the teacher.

A fifth-grade teacher, who was allowing her pupils, one after the other, to rise and "say something," as she explained, did not realize the limitations of this exercise. One pupil remarked on the weather, another on the illness of his cat, another on a book he was reading. Such a language lesson could have no other effect than to confirm habits of scattered thinking and of rambling talk.

A fourth-grade teacher was more skillful who asked at the close of school one day, "How many of you have a canary bird at home?" As she expected and hoped, some had such a pet and others had not. She then said, "To-morrow, those who have a canary will have the opportunity to talk about it. In the mean time please think over what you would like to say that will interest those who do not have one."

The next day in the language-lesson period three pupils who had canaries and three who had not were

invited to take seats in the front of the room. The teacher joined the group and began the conversation by remarking that, when she was a little girl, she had a yellow-and-white canary that sang very sweetly. The children took up the teacher's thought and talked very naturally for about five minutes with little additional help or guidance. This conversation formed the basis of a blackboard composition, worked out by the class in the same period, and this in turn was the model for a written paragraph at a later time.

Fables and stories that have been used for story-telling may furnish material for dialogues, the pupils impersonating the characters or letting the characters tell their own story in the form of conversation.

Composing conversations between animals or plants that have been personified is also an interesting exercise. For instance, a father and a mother bird may discuss the location and building of a nest and the coming of the little birds. An evergreen tree and an oak may talk about the coming of winter or of spring.

Conversation exercises are more difficult to conduct profitably in the upper grades than in the lower, because pupils in those grades are more self-conscious. Unless the teacher can see that the pupils are getting real training in the thoughtful use of language, it is well to employ this exercise sparingly. In any case, the conversations should be brief.

Story-telling exercises are somewhat easier to conduct, although there are not a large number of suitable

stories for children to tell. Dr. Hosis has given an admirable description of the stories adapted to this purpose.¹ He writes:—

Such stories should be (1) brief; (2) simple in structure and motive; (3) full of action and imagination; (4) the language appealing to the senses; (5) the story moving speedily forward; (6) each incident fully developed; (7) the ending definite and satisfying; (8) the appeal to the emotions direct and vivid. For the youngest children, folk-tales, carefully selected, best fulfill the conditions. Later, use may be made of the fables, the myths and legendary stories, and, to a limited extent, of stories by modern authors, particularly of animals. With regard to all traditional stories the greatest care should be exercised to secure the best possible version.

The first characteristic, brevity, is not the least important. It is not well to let a pupil tell a story that requires ten to fifteen minutes, nor to have the exercise degenerate into an exhibition of two or three children who have a good memory. Used thus, story-telling has little value for training in language. On the other hand, if the stories are short and well chosen, and if each pupil takes part in the exercise, much will be gained in confidence, in ability to hold the mind to one train of thought, and in familiarity with new words.

Story-telling that is merely a reproduction of stories which have been learned should have a relatively small place in language lessons, and pupils should not be asked to reproduce these until they have become familiar through the teacher's repeated rendering. By

¹ J. F. Hosis, *Elementary Course in English*.

questions and suggestions they may be led to see the parts of the story distinctly and to feel their relation. If studied in this way, the reproduction of stories may be the best possible preparation for the composing of original ones.

Material for original stories is on every hand. However, it is safest not to leave the child entirely to his own devices, but to give him some suggestions. He should certainly not be asked to *write* an original story until he has had considerable practice in telling short ones of his own invention before the class. A good exercise is to have the whole class contribute to the first stories, the teacher or some pupil furnishing an incident or plot for elaboration by the pupils.

A fourth-grade class had learned and reproduced the fable of *The Wind and The Sun*. As class exercises they had invented fables that were similar, and had proposed several subjects, upon one of which each was to make a story of his own. One boy wrote the following:

The North Star and the Moon

The North Star and the Moon had a dispute as to which was the stronger. As they were talking a traveler passed by. They agreed that the one that would make the traveler stop the soonest would be called the stronger.

So the Moon tried first, and he hid behind a cloud, but the traveler did not stop. So he called to the North Star, "Now try your strength." So the North Star hid behind a cloud, and the traveler stopped, because he did not know which way he was going. And the North Star was called the stronger.

The synopsis of a story like this from Bulwer Lytton's *The Caxtons* may be given to pupils:—

A little boy in a spirit of mischief breaks a beautiful flower-pot belonging to his mother. When questioned by his father he frankly confesses his fault. He makes reparation by selling a much-loved box of dominoes and buying his mother another pot precisely like the one he had broken.

Under the teacher's direction, the class may recast the story, adding details that would make it more interesting, as:—

Imagine you are the boy. Describe your father sitting on the lawn. Tell the kind of day. Describe the flower-pot. Picture your mother's distress. Give her words and your father's questions. Tell your own thoughts and give your answer. Describe your box of dominoes and tell how you prize them. Give the conversation between your father and yourself about selling the dominoes. Describe the walk to town, the visits to the stores and the selling of the toy. Tell what your mother said when you gave her the new flower-pot, and your answer.

After the children have told their stories, and perhaps written fragments of them, the original story may be read to the class.

Occasionally pictures may be distributed to one row of pupils. After giving a few moments for study, each may tell first the facts shown in the picture and then briefly relate an original story suggested by it, giving names to the persons and describing their appearance. The pupils will have little trouble in making chronological arrangement of their material, and in their preliminary lessons they will have noted that all stories

give answers to the questions, *Who?* *When?* *Where?* *What?* *By what means?*

A fourth-grade girl wrote the following after a class study of the picture which is referred to:—

A Picture Lesson

We are studying a picture of a brave knight whose name is Sir Galahad. The looks in his face tell me he is loyal, brave and true. How pure he looks!

He is wearing a suit of steel armor. Sir Galahad's helmet and shield are thrown over his back. His sharp blade hangs by his side. He is standing by his beautiful white horse in the forest.

He has been on a journey and is going back to Arthur's court. He stopped to let his horse rest awhile. He is thinking of King Arthur and the Knights of the Round Table.

The relating of incidents or happenings experienced and observed at home or on the street, on school excursions, in the school shop and domestic science rooms, in the school and home garden is in reality a form of story-telling. As in story-telling, the first exercises are properly reproductions of some incidents told or read by the teacher. The qualities of an interesting incident will be discussed. Pupils will be led to see that an incident should have a point, a beginning, a middle, and an end. At the outset, something may be said about the time, place and principal characters. Then the events may be told in the order of their occurrence, and the account may be closed with an appropriate ending.

For example, an incident is to be related by a cer-

tain pupil standing in front of the class. All the other members listen attentively and prepare to make critical comments, favorable or unfavorable. When the pupil has finished, he remains standing, while those who have comments to make rise and in turn address him. In this criticism, friendly candor is encouraged; if the pupil has done well, his classmates should direct attention to the points of excellence; if he has done poorly, they are to be equally frank — polite, too, of course — in directing attention to specific faults and suggesting ways by which the composition may be improved. Aside from questions of grammar, variety and structure of sentences, and sequences of thought, this method affords opportunity for comments on intonation of the voice, bearing of the pupil before the class, rapidity or slowness of speech, enunciation, and the many little mannerisms that mar oral delivery or make it effective.

After pupils have had some practice in relating incidents that they have seen or experienced, their inventive faculties may be aroused by giving them suggestive situations which they may elaborate, as follows:—

1. A boy — a dog — dusk — a stump that looks like a crouching man.
2. A little girl — a pile of unwashed dishes — the telephone.
3. A boy — a woman — a pile of wood — winter.

As pupils become more mature and have practice in this kind of composition they will be able to produce

original incidents similar to the following, selected from those given by eighth-grade pupils.¹ They illustrate the sort of incidents that should be encouraged in oral exercises, and later for written composition:—

A Dog's Trouble

One bright morning two hay wagons were going down the road, followed by a large greyhound. He was running underneath one of the wagons, looking at a box of chickens that had been nailed on to the wagon. He often poked his wet nose up against the slats and a large rooster pecked at it every time he did this. The dog wanted his breakfast very much and he was determined to have a chicken. The chicken was just as determined to live a little longer, and soon the disappointed dog went away with a bruised nose and no breakfast.

Exercise on a Street-Car Strap

A young man was one day seated in a street car when an elderly gentleman got on the car. The seats were all occupied, and so the young man arose and asked the old man to take his seat.

“No, indeed,” the old gentleman protested, “I would rather stand.”

“But I can stand better than you,” the young man said.

The old gentleman thanked him, but held on to the strap. As the car stopped or started he would swing around on the strap and say with a smile, “This is my morning exercise.”

A Tragedy in the Animal World

One frosty fall morning as I was going on an errand, I heard a cat piteously calling for assistance. I looked all around, but I could not locate the sound. After a short time I looked up and there on top of the highest pole in the street,

¹ From *The Course of Study in English*, Indianapolis, Indiana.

sat a cat. Some dogs had been chasing it, and to escape, the cat had climbed to the top of the pole.

After it had been there for about an hour, two big boys came along. One climbed up and put the cat on his back, where it held on by its claws until it reached the ground.

As soon as it felt "mother earth" under it, it ran away and disappeared around the house.

A Day Is a Day

One day last week, while a neighbor girl and I were sitting on our porch, we noticed a little girl of about four years trudging toward us under the burden of a large new doll. My friend, who knew the child well, inquired of her how she got possession of her plaything.

"Oh," the child cried, and her face was illumined with a smile, "it's my birthday!"

"Why did you not tell me of it before?" asked my friend.

The child's face became clouded for a moment, but then with eager voice she said, "Well, it lasts all day."

A Memorable Afternoon

One day just before school closed my father bought me a donkey as I had been wanting one for several months.

School had closed at noon that day so I thought I would ride my new donkey. I brought him out of the stable, led him up to the side of the fence, climbed the fence, and thus mounted my steed.

We started off down the street and had gone but a few yards when up flew Pollie's heels and off I went into a mud-puddle.

The next morning, at school, the teacher had on the board the following sentence, "The boy can ride the donkey." She asked me if I could make a better sentence out of it. I told her I could, so she said, "Well, get up and tell it to me." I arose and said, "The boy can ride the donkey if the donkey wants him to."

I then told her of my experience, and she said I was right.

The lives of human beings, real and imaginary, are always interesting to people, young or old. Doubtless, for this reason, stories of personified plants and animals make a universal appeal, as is shown by the wide popularity of *Alice in Wonderland*, *Br'er Rabbit Stories*, and *Æsop's Fables*. Children not only enjoy hearing these stories, but they also enjoy telling them and others like them. They have an abundance of subjects in the home pets, in the house and garden plants, in their dolls, in the people of their imagination, in fairy stories, and in the stories of peoples of other lands.

Descriptions

Composition in the field of description gives opportunity for training in exact observation and in truthful expression. In description, as in all composition, oral or written, the truth should never be sacrificed to effect. The first consideration in judging of a description is its truthfulness; the next consideration is its effectiveness or interest.

To illustrate this the following incident is given. A teacher once took her class to the school-room window for the purpose of gathering material for a description of the view. The composition subject was to be "The View from Our Schoolroom Window." After the view had been discussed, its center of interest had been determined, various interesting features near and remote had been discovered, and apt descriptive words had been suggested, the pupils went to their seats to plan

the composition and to write. One of the class asked, "May I put in imaginary things if they will make my story more interesting?" The teacher replied, "Yes, make your story as interesting as you can. Put in anything that comes to your mind."

This teacher was evidently confounding the imaginative story with a description and was losing sight of one of the main purposes in all composition writing — training in thinking clearly and directly to a conscious end. Writing descriptions of imaginary scenes is legitimate when that is the task in hand, but the teacher in this case had set the problem of describing an actual scene, and the pupils should have kept this steadily in mind.

Persons, places, things, events, industrial activities and processes that are found in school, at home, or in the community, may be used as subjects for descriptive composition. It is a cardinal principle in composition teaching, as in all other subjects, that the teacher should keep his eyes open to the things about him, and use common sense. And it is just this employment of common sense applied to common things that distinguishes the good teacher from the poor one.

Does it seem as if nothing ever happens in your community? Think of the things Walt Whitman saw on a country road. Remember what Myra Kelly found in her classroom of "Little Citizens." Consider what Mary E. Wilkins Freeman did with a prim little

New England village. Read Edgar Lee Masters' *Spoon River Anthology* and see what he made out of the town of Bernadotte, Illinois. Drab, dusty, sleepy, idle, dead, Bernadotte — once a roaring port-of-call on the great western highway — has lain on the bank of its lazy river for a generation, ever since the railroad passed four miles to the south and left it to uninterrupted decay. Surely nothing happens along its single street! Yet Masters saw that town as it really was, and out of it made literature. If you think that in your own rural community nothing ever happens, read his book. Try to make the children see that most people live a novel at some time in their lives; that some may live an essay, or a poem, or an adventure in contentment. Try to make them see the stories that happen in their own common lives. Watch for the stories that happen in your own.

Just this quality of observation is rare. People do not see the world about them. For instance, in one school the supervisor of drawing asked the teachers whether they had done any clay modeling.

“No,” said the teachers in righteous chorus. “We have n’t any clay.”

The supervisor made no remark. But when she returned in the afternoon, she exhibited three samples of excellent modeling clay.

“This,” she said, “I got on the road to the normal school, half a mile away. This I took from the excavation that is being made on the next lot. And this I

picked up among the roots of a tree ten feet from your front door."

No further comment was necessary. She had merely seen things about her and applied them to her work. How many things are there within range of any school-room window which neither teacher nor pupils have ever really seen? And who was it said that a mouse is miracle enough to stagger sextillions of infidels?

Pupils will also enjoy the study of pictures, and these are well adapted for training in careful observation and the truthful telling of what is seen. The simple artistic picture is best for this use. Choose one in which the interest centers about persons or animals that are intent on doing something. Pictures crowded with details are confusing. The pupil's task is to translate the thought from the picture to the language form of expression, and he can do this most easily when the facts are few and obvious.

Whether the teacher at a given recitation uses one picture for the entire class, or selects one for each pupil, is in itself unimportant. If there is available a large picture illustrating some scene or incident that has recently been discussed in the history or geography class, it can be used profitably for composition work.

One of the gravest faults in descriptions composed by children is lack of unity and coherence, caused by their giving all details equal rank. In primary grades there may be less emphasis on form in the interest of free ex-

pression, but in the higher grades attention should be given to this and to the organization of the composition material. As a preliminary exercise, the class may be asked to give orally in one sentence the thought of a picture held before them. This may be repeated with other pictures until the pupils learn to separate the main features from the subordinate ones. A class exercise in which the whole picture is described may follow, special attention being paid to the relative importance of its parts. On another day, the class may dictate a description which the teacher writes upon the board. Later they will be able to work independently at their seats.

There is no way to teach a child how to put into words that which may be called the "atmosphere" of a picture, since it is a matter of individual sensitiveness to artistic form and color. This sensitiveness comes from association with the beautiful rather than by direct teaching.

Exposition

Under the head of exposition come the composing of business letters; directions for playing games and for making articles of furniture, clothing, and so forth. Of these the most important is the business letter. The sharpest criticism of the public schools is from business men who receive letters from pupils and graduates. Moreover, this, together with the social letter, is about the only form of composition that most of

the graduates of the elementary schools will ever use, unless they go on to the higher schools.

A school letter, like any other composition, ought to have its reason for being written. The reason which constitutes a letter problem should be discussed to determine the contents and tone of the letter. If application is made for a position, the demands of such a position and the applicant's fitness for it ought to be considered. The arrangement of the parts of the letter is important. This may be worked over orally and on the blackboard before the class is given a similar letter problem to solve in written form. In the seventh, and particularly in the eighth grade, the business letter should receive special attention. The composing of business and of social letters, telegrams, and replies to advertisements is treated more at length under the heading, "Written Composition."

Argumentation

Exercises in argumentation may be very interesting and profitable if too much is not expected. While debating should be attempted in the upper grades only, pupils in all grades may prepare simple discussions, taking sides on questions in geography, history and civics. They may formulate reasons for believing a certain statement to be true, or for making a certain choice; such as, "Shall I put this money [a particular sum] in the bank or spend it for a toy?" "Shall we raise flowers or vegetables in our school garden?" etc.

Before a debate is attempted, pupils should learn how to state a question for debate; for example, "*Resolved*, That pupils ought not to be allowed to exchange costly presents at Christmas." Then the simple rules governing debate should be explained. Here again, as in the less formal argumentations, questions should be chosen that are clearly within the comprehension of the debaters. Abstract questions, and those that are likely to cause unfavorable comment by sensible people, should be excluded. There are many questions also that children in the elementary grades may properly discuss without reaching a definite conclusion, because they are not in possession of all the facts. This gives a training in suspending judgment that is not without value.

Material for compositions

In the foregoing pages many hints have been made pointing to the vital material that lies close to the teacher's hand for work in composition. This material is very abundant. It is found in the pupil's own experience and observation, in the books that he reads or has read to him, and in pictures. Of these much the most important for compositions are his personal experiences and observations at home, in school, in his games, and in his general community life, because, in talking and writing about these, he is obliged to do his own thinking. Nothing here is second-hand. But no great advance could be made if he could not add to his own

experience that of others also as it is portrayed in books and pictures. If pupils are properly encouraged, they will propose interesting passages from their own reading, and contribute pictures for use in composition lessons.

There is need, however, of discrimination in drawing upon this material, and much of the success in its use will depend upon the choice of subjects and upon the points of view from which the subjects are considered. A glance at the subjects chosen by Hans Andersen will show that he took great delight in personifying homely and commonplace objects. Thorwaldsen, the great sculptor, said to him once, "Come, now, write us a new and comical story. I wonder if you could make one up about the darning-needle?" Andersen's *The Darning-Needle*, which is really a story of human life, followed. Other examples, as John Burroughs's essay on *The Apple*, Henry van Dyke's *A Handful of Clay*, and John Ruskin's *The Bird*, show what beauty can be found in common things.

It has been noted before that a subject is improved by limiting it. Possible limitations will be revealed in class discussions in which a general subject is treated from different points of view. To illustrate the variety of such subjects that may be made within a general one, the subject, "A Game of Ball," may be taken:—

1. Subject — How the Game is Played.
Outline — (a) How the field is laid out.
(b) What is needed to play with.
(c) Some rules of the game.

A few other subjects are given as examples of the kind that may appeal to children in grades five to eight:—

Fifth-grade subjects

1. How we celebrate "Arbor Day."
2. Convince your teacher that you ought to have an extra holiday.
3. Write a paragraph on some interesting place in South America.
4. Some signs of spring.
5. If you have seen men digging a cellar, a well, or a ditch, write about it.
6. A rainy day in the barn.

7. The story of a crocus in the school yard
 - (a) Its long winter sleep.
 - (b) The awakening.
 - (c) Its life above ground.
8. A favorite page in my drawing-book.
9. A funny experience I have had.
10. Our autumn walk.
11. Our meat market at Thanksgiving.
12. Santa Claus.
13. What the chickens said to each other the first day the mother hen took them to the barnyard.
14. How I helped father.
15. My experience in ventilating my bedroom.

Sixth-grade subjects

1. Planting my garden.
2. A boy comes hurrying home from school and dashes into the sitting-room where his mother is sewing. He throws his cap into a corner, his books upon the sofa, and begins to talk to his mother. Report the conversation.
3. Write about some interesting current event that has been reported in class.
4. An evening in a pioneer home.
5. Write a story from the following setting: Two distressed little girls are looking down at a broken doll on the ground.
6. Persuade a boy who is unfair in the school games to give others a chance.
7. Write a letter giving one or two incidents that happened on a journey you have taken.
8. An American hero. Why do you admire him?
9. How to care for shade trees.
10. Describe an interesting picture that you have at home.
11. Tell a newly arrived immigrant child about school life in America.
12. Our friends, the birds.
13. Crossing the Alps with Hannibal.

14. A morning shoveling snow.
15. What advantage has the boy who earns and saves money over the boy who has not learned to earn or save?

Seventh-grade subjects

1. Planning a birthday party.
2. If it comes within your personal experience write upon one of the following subjects:—
 - (a) A narrow escape.
 - (b) Almost a catastrophe.
 - (c) All due to carelessness.
3. Give direction for making something you have yourself made, as—
 - (a) Popcorn balls.
 - (b) A cup of coffee.
 - (c) An apron.
 - (d) A sling-shot.
4. The qualities of a good basket-ball player.
5. How we cleaned up the school yard.
6. Our corn club.
7. Keeping accounts — its ups and downs.
8. The parents were abed and asleep. The clock on the wall ticked loudly and lazily, as if it had time to spare. Outside the rattling windows there was a restless, whispering wind. The moon played hide and seek through the clouds. The boy, wide-awake and quiet in his bed, was thinking of . . .
Finish the story.'
9. Our behavior in public places.
10. You are a soldier with Miles Standish. Describe the starting of an expedition into the forest.
11. A conversation between the American and British flags — in 1776; in 1812; in 1915.
12. A Knight of the Round Table.

Eighth-grade subjects

1. A suitable graduating dress for a grammar-school girl.
2. A boy who did things.

3. What your town or city may expect of a good citizen.
4. Saturday evening on Main Street.
5. Playing in a garret.
6. A letter from David Copperfield to his mother.
7. The flagman at the railroad crossing.
8. The trick that failed.
9. A little girl lost while Christmas shopping.
10. How to entertain a number of small children on a rainy day.
11. An incident connected with some place with which you are familiar; as, for instance, a deserted farmhouse, a village store, a schoolhouse, a railroad station, a street-crossing, a department store.
12. Two things I have learned about soils, and how I learned them.
13. Tell a story using one of the following quotations for a subject: —
A stitch in time saves nine.
A merry heart doeth good like medicine.
He laughs best who laughs last.
14. The trials of a letter-carrier.
15. Write a letter to a friend telling about a school contest in which you have taken part.

Outlines

It was evident in the suggested treatment of the subject, "A Game of Ball," on a previous page that the outlines were constructed to guide the writer of a composition in the discussion of his subject. An outline is a plan of thinking. Or it may be considered as a skeleton or framework on which the composition is constructed. It is a necessary factor in composing, for the discussion should start at a definite point and arrive at a definite, predetermined goal. This is true even if the composition consists of but a single paragraph.

To prepare an outline appropriate to a given subject and purpose and to do it easily requires practice. This may be given in class exercises which are devoted to working out composition plans coöperatively, the teacher writing on the blackboard topics and sub-topics that the pupils suggest. The content of the paragraphs to be built upon each topic is considered and the number and arrangement of topics best suited to the purpose of the composition are determined. Additional practice may be given by the preparation of outlines for subjects that have been discussed in class, where the limitations and purposes of the compositions have been established. And again the proper study of the reading lessons is excellent practice in outline work. In literature the outline is found in its proper place, holding up and binding together the composition structure. Through these various kinds of practice pupils ought to become so accustomed to the guidance of outlines that in the eighth grade they use them instinctively and habitually in all their composing.

Oral criticisms

Through all the various exercises that go to make up this course in systematic language training, the spirit of helpful criticism ought to prevail. But at all times the teacher's purpose should be to stimulate pupils to intelligent self-criticism. Increasingly, responsibility for criticism, whether it be of their own or of another's work, will be assumed by them.

It should not be forgotten that judgment and individual taste have a large place in literary criticism. Composing is not an exact science, like mathematics; therefore teachers should be tolerant of the judgments of pupils not in agreement with their own, and they should encourage this spirit of tolerance in the pupils. For the composition is not an end in itself, and its freedom from mistakes is not its best characteristic. In fact, perfection should not be expected, nor desired.

Criticism, both of teacher and pupils, will have accomplished its legitimate purpose, if it has established elastic standards of judgment; if it has habituated the pupils to the attitude of critical but sympathetic appreciation; and if the compositions, oral and written, show signs increasingly of its helpful influence.

But here, again, this result will not come of itself. It is not enough to have the right critical spirit. Pupils must be taught how to criticize. This can be done best through the oral exercises. For class discussion the "incident" is particularly useful, because it is short and pointed, and its structure is simple and evident. Critical interest may be focused on one kind of mistake at a time or on one quality — sequence of thought, structure of sentences or of paragraphs; choice of words one day, use of comma another day, etc. There is economy of labor in thus limiting the scope of criticism, and the results are more definite.

The position of the pupil who is speaking is also a matter to be noted and criticized both by pupils and teachers. The posture should be correct. One who sits in the front of the room should certainly face the class. A pupil in the rear may stand by his desk, and the others may be allowed to turn in their seats so that they can see him, or he may pass to the side or front of the class. The class should always be regarded as an audience by the speaker. The two should be in such position and attitude, one to the other, that addressing and listening are made easy.

As the listeners in such an exercise cannot carry in memory the points that they may like to raise for discussion, they should be taught how to take notes.

WRITTEN COMPOSITION

The large place here given to oral composition is no larger than its importance warrants. It is the foundation of good written composition. In the first grade at least three-fourths of the language work should be oral. This proportion may be reduced gradually, but, throughout the elementary grades, at least half of the language time will be devoted profitably to oral composing and oral criticism. After a class has become alive to the possibilities in a given subject through oral discussion; after each pupil has selected his point of view and stated his subject; after each has planned the scope and sequence of his thought — that is, the outline — it is time to write and not before.

However, not all that has been said in the oral exercise should be put into writing. One or two written sentences or a paragraph may often serve the purpose. The cause of failure to maintain interest in this subject may be traced to (a) too much written work, (b) lengthy essays, (c) excessive criticism, (d) too much rewriting, or (e) the attempt to secure results beyond the capacity of the pupils. It cannot be stated with too much emphasis that the frequent writing of good sentences and of single paragraphs is of much more importance than the writing of formal essays. In fact, the essay is the least practical form of composition,—entirely useless for children; and whatever value there may be in it for grown people can be developed best in the high school.

Teachers should be on their guard against requiring more in quality than pupils can give. The standard of perfection may make them careless and indifferent, for it cannot be realized. But for the teacher to set the standard of improvement, and to emphasize one or two composition qualities at a time in the written exercise as in the oral, will make it possible for every pupil to succeed, and success is a most powerful incentive to effort.

Criticisms of written composition

A critic should first of all establish for himself the writer's point of view. He is then in a position to appreciate what has been written. So, too, that teacher

is the most stimulating critic whose first concern it is to discover the intent of a composition, its good qualities, and to note and approve signs of effort and of growth in skill. Disapproval of carelessness, of mistakes in spelling, of faults in punctuation and in mechanical arrangement may be kept subordinate to approval of what is commendable without danger of encouraging indifference to these important matters.

In this work of correction perhaps the most valuable aid is given in the conference period. By sitting down at the side of a pupil and reading with him what he has written, the teacher can come into a close personal relation. This conference is held most effectively with many pupils when they are writing, as the teacher passes about observing the compositions in their process of growth. That teacher is not the most helpful one who corrects in the evening hours most minutely the largest number of compositions. Neither does that pupil take the keenest interest in his work, nor does he make the most substantial progress who copies the largest number of such well-marked papers. The responsibility for finding and correcting common errors should be thrown on the pupils. The results of discussion in class and of the teacher's suggestions should appear in the next new compositions.

Pupils may exchange their written exercises and pass judgment upon them, indicating, as the teacher is accustomed to do, the pleasing features, suggesting improvements in organization and wording, and



pointing out errors. They may even give the papers a rating, using a schedule of values that has been agreed to. If these judgments of pupils do not affect the rating given by teachers, but are used solely as exercises in training the critical judgment, they can do no injustice to any pupil.

In each recitation several compositions may be read aloud by the pupils for oral criticism. It is one of the best ways to interest a class, particularly the indifferent pupils, because it offers them an immediate reward. It will also improve the oral reading, for the class cannot criticize when it cannot hear. If a pupil reads his composition haltingly, and is not holding the interest of his hearers, he should not be allowed to continue. It is better for him to sit down and study it until he can read it in a way to reveal the good qualities that he has put into it.

In teaching pupils how to criticize, it will be well for them, as well as for the teacher, to have in mind a plan of procedure. Something like the following may be found useful in all grades:—

1. Read the composition through.
2. Is it interesting? Tell one thing that made it so.
3. Did its author write as if he were interested in his subject?
4. Did the writer keep to his subject? Did he put anything in it that was unnecessary?
5. Are the sentences well arranged? Point out misplaced sentences.
6. Were any of the expressions new to you?
7. Mention any apt word that you noticed.

8. Indicate a particularly good sentence, or sentences.
9. Indicate a sentence or sentences that could be improved.
10. Help the pupil to restate it.
11. Correct grammatical errors.
12. Correct mechanical errors.

Letter-writing

There is no form of composition in which the attitude of self-criticism is so important as letter-writing, for it is the one form of composition which every one must use and upon which at times one's success in life may depend.

It may be said at the outset that the test of a good letter is its favorable effect on the person who receives it. One of the first considerations, therefore, in a composition that takes the letter form, should be the tastes and interests of the person to whom the letter is addressed. A composition, then, is not a letter, properly speaking, simply because it is cast in the letter form. Much interest and point will be given to class criticism of letters, if each pupil, before reading his letter, describes the person to whom it is directed.

School letters ought also to involve real situations. It will require some ingenuity to create them, but results will repay the effort.

Some ways employed by successful teachers to make letter-writing real may be suggestive. For instance, an actual exchange of friendly letters may be made among members of the class; a schoolroom post-office may be devised with postmaster and letter carriers;

birthday letters may be exchanged; correspondence may be carried on with the pupils of other rooms or schools; the teacher may write a letter to the class, or he may read an interesting one that he has received, to which pupils may make reply. The letters of famous people to children may be read to the class, and they may imagine that they are the children receiving the letters and may write replies. Of course the success of this plan depends upon the pupils' knowledge of and interest in the writers. There are excellent collections of such letters, conspicuously those of Phillips Brooks, of Lewis Carroll, of Victor Hugo, and of Hans Andersen. Letters received from friends or relatives by members of the class may be read, accompanied by a description of the senders. The use of geography, history and civics as material for letter-writing is also very common. Pupils may imagine themselves children of the times and places about which they are studying, or they may impersonate the prominent characters of various times and places, describing to friends the historic and geographic situations in which they find themselves. School activities, school incidents, public day exercises, birthday celebrations of distinguished persons furnish interesting occasions for letter-writing as well as for other forms of composition. In some schools all excuses for absence and tardiness, and all requests for early dismissal are written by the pupils under the direction of parents and signed by them.

Letters and other forms of composition may be illustrated. Many adults of a sprightly disposition like to supplement their word pictures with drawings of the thumb-nail or crude outline variety. That authors sometimes revert to this kind of illustrations is evident in some of the writings of Thackeray and Dickens, and in a recently published book entitled *Daddy Longlegs*. Such drawings are to be judged not by their artistic merit but by their story-telling quality.

The stationery and the ink used in correspondence have much to do with the impression of a letter upon the recipient. Many people are not careful in these particulars, at times to their great disadvantage. Consideration should be given to these matters in the upper grammar grades.

This training in writing friendly and social letters may begin in the third year of school. It should be emphasized throughout the course. The writing of business letters, of telegrams, and of answers to advertisements should be taken up seriously in the seventh and eighth grades. While children of the age of fourteen years will not be able, even with careful training, to write a mature business letter, they may become proficient in the elements of business English composition, so that they may meet the demands of possible employers, or be ready in their field to take up successfully the advanced work of the high school.

To this end, pupils may write orders for goods of

various descriptions, they may subscribe for papers or magazines, they may write letters acknowledging the receipt of goods, some expressing approval of quality, others criticizing the quality. They may apply for positions and recommend their friends for positions. But writing of this sort also is not of great value unless it is made to deal with real situations; for it calls for little thinking to write orders for goods with which the writer is unacquainted, to criticize the quality of goods about which he is entirely ignorant, and to apply for all sorts of positions of whose requirements he has no knowledge.

However, if pupils make personal studies of local occupations and gather exact information regarding them, they will get vocational insight that may be of future value and they will be able to compose intelligently their school applications for positions. For example, the girls may consider the requirements for seamstresses, cooks, waitresses, nurses, clerks, school teachers; while the boys consider the qualities that determine the success of newsboys, grocer-boys, cashiers, bookkeepers, or farmhands. They may interview people engaged in various occupations and watch them at work. They may call on the town clerk or the school business director to learn the particular problems of each that give occasion for correspondence.

Appropriate advertisements may be cut from newspapers and answered not carelessly and haphazard but with the thought of the fitness of the boy or girl

for a particular job. After a study of a specific industry has been made and an advertisement for a position in it has been written in answer to one found in a newspaper or to one composed by the class, a pupil may write a letter to another member of the class offering him or her a particular position. The receiver of the offer may accept or decline in a properly worded reply, as he deems himself fitted or unfitted for the duties of the position.

The writing of telegrams likewise amounts to little if it consists in writing just a few ten-word messages. But if definite situations are stated which must be analyzed and condensed into a given number of words without essential omission, then tasks will be set that call for thinking and language skill. The following paragraphs, setting forth a situation and its condensation into a telegram, will illustrate this: —

Situation — A traveling salesman can sell one hundred dozen hats, catalogue number, No. 10, at authorized price of twenty dollars per dozen, if he can give a ten per cent discount. In a ten-word telegram he asks his firm for instructions.

Telegram — Offered eighteen dollars for hundred dozen number ten hats. Instruct.

(Signed) —

While pupils are writing telegrams, they may make interesting studies of the telegraph business. Blank forms on which telegrams are written may be brought to the class. "Night-letters" and "day-letters" and the rates for sending each to a certain place may be

learned. The cost of these may be compared with that of a telephone call or a cable message.

Enlarging and enriching the vocabulary

In all these various exercises in oral and written composition and in the more informal use of language in common speech, there will be an ever growing demand for new words. An impoverished vocabulary is a cause as well as a result of emaciated thought. Therefore it becomes one of the vital, although often neglected, functions of English training to enrich and refine the vocabulary. Professor Palmer writes as follows on this point: ¹ —

Our ordinary range is absurdly narrow. It is important, therefore, for anybody who would cultivate himself in English to make strenuous and systematic efforts to enlarge his vocabulary. Our dictionaries contain more than a hundred thousand words. The average speaker employs about three thousand. Is this because ordinary people have only three or four thousand things to say? Not at all. It is simply due to dullness. Listen to the average schoolboy. He has a dozen or two nouns, half a dozen verbs, three or four adjectives, and enough conjunctions and prepositions to stick the conglomerate together.

Let any one who wants to see himself grow resolve to adopt two new words each week. It will not be long before the endless and enchanting variety of the world will begin to reflect itself in his speech, and in his mind as well. I know that when we use a word for the first time we are startled, as if a firecracker went off in our neighborhood. We look about hastily to see if any one has noticed. But finding that no one has, we may be emboldened. A word used three times slips off the tongue with entire naturalness. Then it is ours, and

¹ G. H. Palmer, *Self-Cultivation in English*.

with it some phase of life which had been lacking hitherto. For each word presents its own point of view, discloses a special aspect of things, reports some little importance not otherwise conveyed, and so contributes its small emancipation to our tied-up minds and tongues.

The teacher's use of words doubtless affects the pupil's vocabulary favorably or unfavorably. New words are added also by each subject of study, as drawing, geography, arithmetic, nature-study, and so forth. But through the practice of composing a teacher is given a unique opportunity to encourage the habitual use of new words.

New words that have been learned in memorized selections of literature should find their way into the compositions, and the influence of these selections should show itself occasionally by an unusual use of a common word.

Capitalization and punctuation

There are two phases of written composition that from the practical standpoint are no less important than those that have been discussed. They are the use of capitals and of marks of punctuation. These matters, apparently mechanical in their nature, in reality depend for their intelligent use upon the thought that is being expressed. They are mechanical tools with which a writer may, if he knows how, reveal his thought more distinctly on the printed page. The teacher should realize, however, that they are tools of comparatively recent invention, and that they are not essential to clear writing, for in former times

writers were obliged to get on without them. Recent writers are using them sparingly.

A few examples will illustrate this tendency. It is not uncommon in titles of books, in headings of chapters, and in topical analyses for the first word and the proper nouns and adjectives only to begin with a capital letter. Certain proper adjectives are sometimes seen — particularly in newspapers — beginning with a small letter, as: *democratic party, impressionist school, renaissance literature*, etc. The form *Mississippi river* has become allowable instead of *Mississippi River*, but the latter form is still preferable. The semicolon and colon are seldom found or needed in ordinary composition. Their proper use requires a maturity of judgment that elementary-school children do not possess. Sentences written by such pupils that really call for these marks should be remodeled and simplified. The comma is now frequently omitted in compound and complex sentences, provided the conjunction or relative word binds the parts of the sentence together closely.

It thus comes to pass that, to acquire even elementary skill in the use of capitals and of marks of punctuation, training in judgment must accompany the learning of rules. The rules that are fundamental to acceptable practice are not numerous, and these rules should be learned so thoroughly that the desired one will come automatically to mind when the occasion for its use is presented.

Some special exercises, that lay particular stress

on the use of capitals and marks of punctuation, should be devised by the teacher. A paragraph without capitals or marks of punctuation may be written on the board occasionally. The pupils' task will be to supply these. There will be also some oral exercises in which pupils think in sentences, that is, they will pause at the end of each thought and become conscious of its ending and mentally visualize the proper mark — period, interrogation or exclamation mark. If this training is begun early, pupils will acquire the sentence sense that all must have who write easily and clearly.

Dictation is another exercise that may be used for drill upon the mechanical elements of composition. It should be a teaching, not merely a writing and a testing, exercise. If, by study with the teacher, pupils do not get the meaning of the selection and understand why the capitals and punctuation marks are well used, they will of necessity place them in a purely mechanical way, as they have memorized them.

Thus it will be well to choose for dictation a selection that is easily understood by the class, and to choose it with a definite purpose: at one time for use of capitals; at another for quotation marks; at other times for spelling, for a particular use of the comma, for letter headings, etc. These exercises should be short and pointed. They may be corrected by the pupils in class, either by exchanging papers, or by comparison with a model form set by the teacher.

The use of the blackboard in teaching composition

In dictation as in all other composition exercises, oral and written, the blackboard may be made the teacher's most helpful ally. Here the pleasing expression may be compared with the faulty one. Teacher and pupils together may work out a language problem in choice of words, in sentence construction or in paragraphing. Compositions in part or entire, if they are short, may be copied on the board, either as examples of excellence to be used as standards or for the correction of typical mistakes. In the latter instance they should be covered with a curtain or map until the time of recitation, so that pupils may not receive incorrect impressions.

The class exercise may be followed by the criticism of compositions in the hands of the pupils, either their own or their neighbor's. In an exchange of compositions, it may be well for the poorest papers to pass sometimes into the hands of the best writers and *vice versa*. While the corrections are being made, the teacher should not sit at her desk, but she should find some way of making this a real teaching exercise, recording on the board for present or future consideration the points raised by the pupils.

Again there are many occasions when pupils may be sent to the board to write sentences and paragraphs that illustrate the point under discussion, or to make more evident a troublesome error and its correction.

At times also it may be well to have a pupil write his composition on the blackboard at the side of the room while the others write at their seats. This may be used later for class criticism.

The teacher, who has learned how to make the chalk do its share of the talking, and has taught the pupils to be ready in its use, is often the most effective instructor.

COLLATERAL READING

1. On oral and written composition:—

Elementary Course in English. James F. Hosic.
Chapter on "Composition."

2. In the grammar grades:—

The Teaching of English. Percival Chubb.
Chapter XI.

3. Survey of past and present tendencies:—

The Fourteenth Yearbook of the National Society for the Study of Education.
Chapter VII, pages 90-99.

4. On dramatization:—

The Dramatic Method of Teaching. Harriet Finlay-Johnson.
Chapter IX.

5. On development of effectiveness in composition:—

Linguistic Development and Education. M. V. O'Shea.
Chapter XII.

6. On criticism:—

Teaching the Language-Arts. B. A. Hinsdale.
Chapter XVIII.

Also the following books:—

Self-Cultivation in English. G. H. Palmer.
Very readable and suggestive.

Letters from Colonial Children. Eva M. Tappan.

✓
Imaginary letters planned to give an idea of life in some representative American colonies as it might have seemed to children. Suitable for fifth and sixth grades.

Letters to Children written by Famous People.

A delightful collection that should be very useful to teachers.

Grammar

In a large city not many years ago a visitor to the schools noticed on the blackboard in an eighth-grade room a lesson assignment in grammar that recalled the assignments common in a district school in a remote rural section in Maine in the days of his boyhood. There were long involved sentences, and a stanza of poetry. Difficult and doubtful constructions abounded. Definitions, diagrams, and parsing were called for with an insistence that revealed the controlling influence of the partisans of the "culture" school of education.

Upon inquiry among principals and teachers in various parts of the city, the visitor could find no one who defended the kind of emphasis then being placed on grammar. Finally it was discovered that the Latin Department in the high school had become dissatisfied with the amount of grammar brought to their classes in the heads of those coming from the eighth grade, and that it had succeeded "through a hot campaign" in compelling the adoption of the present course, on the ground that "the Latin Department had no time to teach the grammar needed in the study of Latin." That the grammar insisted on was beyond the mental capacity of the pupils, did not interest the Latin Department. That it crowded out the study of practical English, interested it as little. In the judgment of most teachers even in these same high schools this

course really belonged to the high-school plane of study, yet pupils in the elementary grades were subjected to this inexcusable and indefensible grind, because the promotion examinations for high school in this subject were made out by the Latin Department.

Such a striking example of the unreasonableness of the reasons that have held grammar in its exalted place to the practical exclusion of the useful study of English would be unnecessary here, if it were not true that this unjustifiable emphasis is still not uncommon. It would appear that a few principles of education should now be established, and that among these are incontrovertibly two: one, that the mental tasks of children ought to be adapted to their mental strength, as their physical tasks are adapted to their physical strength; and the other, that the possible advantage for a few ought not to determine the course of training for the many.

The limited value of grammar

There is ample testimony to the limited value of grammar as a special subject of study for elementary schools. Classical writers have confessed their disregard of its precepts. Recognized authorities in grammar have urged that only the simplest parts of it be taught in the elementary schools. Investigations by students of education seem to show that its influence on the speech and writing of school children has been

slight, even where it has been made one of the main subjects of study.

Moreover, grammar does not legislate; it merely records the principles which the majority of good writers and speakers in the past have employed. But the practice of good writers of English has not remained constant. The grammar of Chaucer, and the grammar of Shakespeare, and the grammar of Tennyson, vary in many particulars. Changes in usage are now being made. There are evidences that the distinction between *shall* and *will* is disappearing; that the use of the subjunctive mood forms is being increasingly restricted; that *whom* as an interrogative is dropping out of use. These changes will, of course, be accepted only when the majority of the best writers and speakers employ the new expressions. They will not be matters of concern to the elementary-school teachers, for the general principles that have long endured will doubtless persist. These are the principles that young pupils should learn. But the teacher's knowledge that language is unstable should liberalize his instruction and critical attitude.

Pupils who have natural linguistic ability may receive, even in elementary grades, some training in logical thinking by an intensive study of grammar, provided the teacher is master of the subject. But if the subject is, in the end, of little intrinsic value, it would appear to be the part of wisdom to secure this training through useful subjects. However, it is per-

haps justifiable to carry the study farther with selected groups of pupils than with all.

It appears to be generally agreed that the majority of pupils should be taught only those parts of grammar that they need to improve their daily use of language, and that these parts should be distributed in the grades according to the pupils' ability to comprehend and to apply them.

Skill in the use of essentials

But within the limitations here suggested, pupils ought to become proficient. That is, they should be able to apply their knowledge instantly. To this end occasional exercises may be given in which pupils are to find verb, subject, noun, adjective, etc., the time to be limited, as in arithmetic. If much time is required to think out the simple grammatical relations and classifications, they are not yet known.

This knowledge of principles and facility in their application should be insisted upon on grounds of economy. When a pupil learns, for example, that a compound subject regularly takes a plural verb, he has acquired a principle that will guide him in many cases. His practice may often err, but the rule will be a wholesome check to faulty diction. And again the rule, "A pronoun must agree with its antecedent in person, gender and number," will guard one against the common error exemplified in "Each pupil will leave their paper on their desk."

By thus restricting the study of grammar in the elementary grades to that which bears directly upon the intelligent use of language, many difficulties generally encountered in the subject will disappear. For example, all but a small part of the problem of grammatical nomenclature ¹ will be passed along to the high school. The elementary teacher's attention can be given to a better selection of material for grammatical study, to more closely relating grammar and the other phases of language, and to promoting the mastery just referred to.

Material for grammatical study should be simple

The material used for grammatical study should be chosen with the same care that the teacher of physics and chemistry uses in planning his laboratory experiments. The material should be simple, involving no confusing constructions and drawn for the most part from the pupil's own speech and writing. But common speech is full of grammatical subtleties that confuse the immature mind. For example, the sentence, *My mother wants me to go home directly school is out*, is a common enough sentence, but it would be folly to assign it to a class to analyze.

As early as the fifth grade pupils may discuss the grammatical nature of the sentence. In the simplest declarative form they may learn to discover first the

¹ Report of the Joint Committee of the New England Association on Grammatical Nomenclature. Chicago University Press.

stating word. After they are fairly proficient in this, they may be taught to place *who* or *what* before the verb, making a question that the subject of the verb will answer. Inverted sentences, such as *Sweetly sang the robin*, should be introduced early so that the pupil will not be misled into the conviction that the subject always comes before the verb.

By the end of the sixth year pupils should be able to recognize in simple sentences nouns, pronouns, verbs, adjectives, adverbs, prepositions and prepositional phrases. The following sentences were adapted from a sixth-grade pupil's composition. They are sufficiently difficult for this grade. As written by the pupil they were not suitable for grammatical study, although they were unobjectionable in the composition.

1. We planted in our schoolroom a few beans.
2. These beans were planted in a small box.
3. What happened to the hard beans?
4. The little green germ had forced its way up.

Eighth-year pupils should be able to discuss the grammatical relations in such sentences as the following: —

1. Yesterday I was very much surprised when I awoke.
2. A large spider's web was stretched across one corner of my room.
3. I first thought that I would tear the web down.
4. I said to myself, "I will watch him."
5. The fly kicked and struggled hard, but he was caught fast.

If suitable sentences cannot be found in the spoken English of pupils or in their written work, they may

be constructed as a class exercise. One pupil may write at the board, the others suggesting the form of the sentence or sentences. All important facts concerning the use of words and the structure of sentences may be learned in this way, not from the book, but from sentences on the blackboard.

Methods of instruction

In general the approach to a new grammatical term should be inductive. If, for instance, the predicate adjective is to be taught in the seventh grade, a few sentences may be put on the board that illustrate familiar uses of the adjective, leading up to the predicate use, like the following: —

1. The large factory was burning.
2. A fire engine was coming down the street.
3. Boys, big and little, appeared from all directions.
4. The firemen were brave.
5. They were quick and strong.
6. The water was abundant.
7. The fire subsided quickly.
8. The fire did little damage.
9. Two men were owners of the factory.
10. The owners were unhappy over the fire.

It will be noted that the first three sentences illustrate the uses of adjectives with which pupils are already familiar. The fourth introduces the predicate use, which should be taught. The fifth and sixth are additional illustrations of the predicate use. The seventh compels comparison of predicate adjective and adverb. The eighth and ninth compel compari-

son with object and predicate noun. The tenth returns to the predicate adjective.

Such a lesson should make clear the peculiar quality of the predicate adjective and the difference between it and constructions with which it may be confused. After this there is need for an abundance of practice in distinguishing this construction in very simple relations. The predicate adjective with *seem*, *appear*, *look*, *smell*, *taste* is difficult for children to sense; in fact, many adults never clearly perceive the copulative significance of these verbs. Therefore it should be taught grammatically only in the higher grades, although at all times the predicate adjective use with these verbs should be insisted upon until it becomes instinctive.

Through these inductive lessons pupils will come to see that the classification of words is determined by their use in the sentence, and that this use is discovered through an understanding of the meaning that the sentence expresses. This leads of necessity to the conclusion that the first question for the pupil to ask is, "What does the sentence mean?" The second question is, "What relation do the words hold one to the other in view of this meaning?" Questions of word forms are then properly raised. Analysis of sentences therefore should be the principal grammatical exercise.

Diagramming is an economical means of indicating the grammatical relations of words, but it should not

take the place of verbal analyses. In so far as it does this, the center of interest is moved from the thought in the sentence and the relation of the words to this thought, to the diagramming system and its application to a given sentence.

Formal parsing exercises in which all the possible grammatical facts of each word in a sentence are given according to schedules are drill exercises in what may be called the anatomy and physiology of language. They deal with the dry bones of grammar, rather than with its practical uses. Where the subject is taught as a means of improving verbal expression, little time will be spent in parsing. The significant grammatical facts are given in a proper analysis of the sentence.

In the seventh and eighth grades the pupils' knowledge should be systematized, so that it may be retained more easily and be more accessible. Moreover, this systematizing process involves the right kind of mental discipline.

Time to be given to grammar

For an elementary course of training in language, including composition and grammar, three periods per week should be ample time in which to accomplish the simple practical results that are here indicated, provided the use of good English is called for throughout the school day. Of this time none should be given to grammar in the first four grades. In the fifth grade an occasional lesson may be given. In the sixth and

seventh grades it deserves not more than ten per cent of the time allotted to language, the equivalent of one lesson in ten. In the eighth grade one language lesson in five may be assigned with profit to grammar.

Summary

The subordinate place that grammar should hold in the elementary schools is indicated by the following quotations. One is the judgment of a successful business man, a university graduate; the other is the judgment of a director of English teaching in a large high school. They are in substantial agreement in their call to the schools to confine the study of language to perfecting pupils in the everyday use of it, avoiding its abstruse, difficult and merely ornamental phases. Says the business man:—

Primarily am I impressed with the importance of ability to talk well — the importance of training in the everyday use of language. This and letter-writing are really all ninety-five per cent of our pupils need to know of the expression side of our language to be successful in their everyday business and social relations. The rest of it, like any other subject devoted to appreciation, is a fine art. And a precious amount of time we squander on the over-niceties of English as compared with the fundamentals.

Says the high-school teacher, who has observed many English classes, and has seen many seniors go out into the world:—

What should a pupil know in English when he enters the high school? My plea is for the fundamentals, the correct habits in the fundamentals. . . . I know I answer for a very

large number when I say that if the pupils when they enter the high school can all read intelligently, can write and punctuate correctly constructed sentences — no sentences without verbs, no sentences run together, no sentences with floating dependent elements — and can spell a list of about two hundred common words which many of our first year high school pupils are now misspelling; if they can do these things from habit — not occasionally, but from habit — we shall welcome them with open arms.¹

COLLATERAL READING

1. *On the value and use of grammar:* —
 - (a) *Youth; Its Education, Regimen and Hygiene.* G. Stanley Hall.
Chapter X, page 240.
 - (b) *Teaching the Language Arts.* B. A. Hinsdale.
Chapter XVII, pages 150-51; 156-64.
 - (c) *The Fourteenth Yearbook of the National Society for the Study of Education.*
Chapter VII, pages 100-05.
2. *On grammar in the elementary grades:* —
The Teaching of English. Percival Chubb.
Chapter XII.

Spelling

Failure to spell correctly is commonly regarded as a sign of illiteracy. The public school has always been sensitive to this prevalent attitude and has laid much stress on the spelling lesson and the spelling book. Until comparatively recent times, however, not much thought has been given to the selection of words to be studied for spelling, or to the method of teaching and studying these words. It has been assumed that if teachers were conscientious in assigning spelling-book words to their classes, and if pupils were conscientious

¹ *English Journal*, March, 1914.

in spending time on the lesson thus assigned, good spelling would result. Moreover, from very early times the unfortunate ambition to teach as many words as possible possessed the minds of many teachers.

But this ambition and this plan of procedure have not produced the desired number of good spellers. A few prodigies were in evidence in the spelling contests of a past generation, who could not be "spelled down," and these prodigies occupied the field of vision of most people, so that they did not see that many children were not learning to spell the words in common use.

It was to be expected that, when the practical ideal began to dominate the school, the teaching of spelling, one of the most practical subjects, would be decidedly modified. The following changes may be noted: (a) Fewer words are now studied in each lesson and in each grade. (b) Only the common words are studied. (c) Pupils are taught how to study a spelling lesson. (d) A lesson assignment is in part a teaching exercise.

Selection of words for spelling

It is now generally agreed that the study of spelling in the elementary schools should be confined to a carefully selected list of words that are used in writing. One does not need to consider the spelling of words used in conversation, and when one reads, the printed or written page supplies the spelling.

Some investigations have been made to determine what these common words are. That they are fewer in number than has been generally supposed is certain. For example, in two thousand letters received from professional and business men and women, only two thousand and one different words were used.¹ A summary of the results of the various investigations, in which the vocabularies of children and of adults have been studied, seems to warrant the conclusion that a list of five thousand words properly selected would include all those needed by educated people in written intercourse. This is about half the number found in the spelling books of the past.

The first source from which to draw words for study in school is the pupil's own vocabulary. The words that he actually uses should of course be spelled correctly. To this body of words there should be added new ones selected from those in use in ordinary life. The words *believe, receive, picture, knives, cousin, lead-pencil, libraries, villain, village, absence, nuisance, portion, calendar, diphtheria, hydrant, column, color, cities, planning, cellar, ought, aunt, echo, neighbor*, are common words. Such words as *celestial, abhorrence, syllogism, decalogue, convalescence, apportion and hypocrisy*, are not common words. The spelling of unimportant geographical names, many names in fiction, in history and in mythology, should be omitted. When

¹ Leonard P. Ayres, *The Spelling Vocabularies of Personal and Business Letters*. Russell Sage Foundation.

it is necessary to use these in written work they may be put upon the board or looked up in the dictionary.

The second source from which spelling words may be drawn is the reader and the spelling book. Makers of spelling books have of late years been more discriminating in the selection of words, but it ought to be remembered that spelling books are made for general use, while the profitable spelling lesson is for particular children. One school may study the entire grade assignment of words in a spelling book, although such a school would be rare, while another school in the same town might not be able to study profitably more than half such assignment. The spelling book used with the needs and capacities of the pupils in mind becomes a means of enlarging and enriching the vocabulary. It should not, however, take the place of the individual and class lists made up of the troublesome words in common use.

In the first four grades, words for spelling should be taken from the reading books rather than from spellers. These readers seldom contain any but common words. They have been studied in the reading lessons and therefore pupils can at once concentrate their attention upon memorizing the spelling. This is a legitimate way to economize time and effort. In grades above the fourth, words may be taken from readers to some extent, but it is desirable to use a modern spelling book also.

PUPILS NEED A METHOD FOR STUDYING A SPELLING LESSON

When a well-chosen list of words has been either selected from written exercises or found in a spelling book, why is it not enough to assign these in groups of ten for pupils to "learn?" Or to quote a tired teacher's remark after a teachers' meeting, "Why must I teach my pupils to study a spelling lesson? I don't want to do all their thinking for them."

The answer to the question is simple. Pupils ought to be taught how to study a spelling lesson because they do not know how unless they are taught. Every human task has its better way of being done. To teach pupils how to study a spelling lesson is to show them how to apply thinking to the mastering of words. If the teacher does this and sees to it that pupils employ systematic methods in their private study he is helping them to establish a mental attitude and a habit that will be far more useful than the words that may be learned in any particular lesson.

The very appearance of a list of disconnected words tempts to a mechanical and superficial kind of study. Teachers have yielded to this temptation and naturally pupils have followed the teachers' lead. Until they are shown a better way, pupils will study with their eyes only. They will not *examine* what they see, they will not *think over* what they see, but will without discrimination repeat each word the same number of

times, whether or not they already know its spelling or its meaning. This is parrot thinking.

It makes little difference whether this thoughtless repetition is oral or in writing, its results are equally barren. The experience of one bright boy of the sixth grade is that of thousands. He was found one evening by his mother writing with his eyes shut. He said in explanation: "The teacher gives us ten words every day, and tells us to write each word twenty times. I find that after I have written a word five times I can shut my eyes and think about something else while I write the other fifteen." The mother looked over the paper and remarked that she could n't read most of them. The boy said, "Oh, that's all right. I can't read them myself, but I wrote them, did n't I?"

STUDY WITH THE TEACHER

The teacher's task, then, is to point out to pupils what there is in words to think about and to show how to think about them *before* they try to memorize them. For it still remains true that the word must be memorized, and that this is for most people hard work, requiring concentrated and repeated attention. But the thoughtful consideration of the word is the necessary preparation for an intelligent and economical memorizing.

The points to be considered in word-study are pronunciation, meaning, use, spelling. A few typical words, suitable for eighth-grade assignment, have

been selected with which to illustrate the teaching of these points. In practice, however, no lesson should contain as many as five words that require intensive study. Two or three such words are enough:—

1. Tedious.
2. Forbade.
3. Invisible.
4. Mischievous.
5. Council.

These words, even if they are in the spelling book, should be written on the board. After the pupils have studied them for a moment, volunteers will pronounce each one. This pronunciation should be deliberate, so that the syllables and accent are unmistakable.

Pronunciation

If a word is mispronounced, there should be no guessing. The teacher should pronounce it, or she should give a pointed suggestion such as, "Accent the first syllable"; or, "The division of syllables is here"; or, "This vowel is long *a*, not short. Give the sound of long *a*. Put it into the word." Or the pupils may quickly consult their dictionaries.

The accent of words is important. Long words generally have two accents, a primary or strong accent, and a secondary or weak one. Pupils often reach the eighth grade without a proper training in phonics and are quite unable to throw stress into the voice on the accented syllable. These will need special exercises in accenting and in clear enunciation.

There are several helps of which pupils should learn to make use. Phonics is one of these. The mistake in pronunciation of many words lies in one letter, as in *forbade*. The teacher can give quick help, if the pupils know a little phonics, by marking the word, *forbăd'*. However, it will be seen that this is really another way of *telling* the correct pronunciation, and somewhat longer and more cumbersome than orally telling it. The skillful teacher will use phonics and diacritical marks, but she will not exaggerate their use.

The recognition of common phonograms in new words helps greatly in pronouncing and also in spelling them, as in the words, *playfully*, *membership*, *massive*, etc. In such words the phonogram division is more useful than the syllable division.

The recognition of phonograms leads naturally, in the upper grades, to the learning of a few common roots, prefixes and suffixes, and these in turn will give occasion for two or three talks by the teacher on the origins of our language.

Lessons in the use of the dictionary

The dictionary may be helpful in the spelling lesson as has been indicated. It is the universal tool for the study of words, and before pupils leave the grammar grades they should be able to find a given word quickly; to understand the signs that indicate syllabication and accent; to discover the derivation of words from the English equivalents of the foreign words; to pick out

the meaning that fits a given content. They should know that there is a pronouncing key and where it is to be found, even if they cannot use it without the help of the teacher.

Specific training in its use may begin as early as the fifth year with exercises like the following:—

Teacher — Take your dictionaries. Find the first word beginning with the letter *b*; the first word beginning with the letters, *ba*; *be*; *bi*. Notice the words at the top of the pages. They are put there to help you find the word you want.

Now find the words, *can*, *cost*, *cut*.

This is enough for one lesson. A number of such short exercises will soon make it possible for pupils to find a word quickly, and then similar, brief, pointed exercises may be given in accent, in syllabication, and in meaning — one at a time. There is no need of haste, for not before the seventh year should it be expected that pupils will be independent or very skillful in the use of the dictionary.

While pronunciation is important, it is possible to be over-insistent on a particular pronunciation. If the dictionary allows two pronunciations for a word, as in *either* and *tedious*; or two spellings, as in *programme*, *program*, the teacher ought to have a like tolerance.

Meaning of words and their use

After the pronunciation is mastered, the meaning and the use of each word should be determined. This may be done by pupils suggesting synonyms, and put-

ting each word into a short sentence that will clearly show its meaning. For instance, the sentence, *This is a tedious task*, does not show whether it is a heavy or a light task, an agreeable or a disagreeable one. But the sentence, *To wait for a train is tedious*; or, *A pleasant task, if long continued, may become tedious*, at once shows that the writer has the meaning clearly in mind. Moreover, the sentences should be interesting and the thought expressed worth while. Geography, history, literature, current events, and general science will furnish material. The making of such sentences as the following will enrich and reinforce the vocabulary:—

Columbus made a triumphal *entrance* into Barcelona.

A hint to the wise is *sufficient*.

The glacial ice formerly in the United States is not now in *existence*.

The *interiors* of English cathedrals are beautiful.

The proper use of a word is much more important than its definition, as a teacher discovered after a discussion in the spelling lesson of the word *betrothal*. In the written exercise at least a quarter of the pupils wrote such sentences as, "My sister was betrothal to John," "John and Mary were betrothal." This class needed much more experience in the oral use of the word before they could call it their own. Moreover, this is one of the unusual words that should not be studied intensively in the elementary schools. Because it was in the speller the teacher unwisely included it in the spelling lesson. Much time also may

be wasted in putting into sentences common words whose meaning is well known, such as *plate*, *apple*, *doctor*.

Teaching how to study the spelling lesson

When the pronunciation, meaning and use of a word are known, pupils are ready to study its spelling. They should not be asked to learn the spelling of any words that they do not thus know. In this study the point of difficulty should be discovered first. For example, the word *tedious* is written on the board. Pupils will readily see that *dious* is the part that needs attention. This part will be underlined, or traced over with red chalk, or inclosed in a circle, or in some way emphasized. Pupils will be asked to close their eyes and see the word, to spell it in concert, to write it on a scrap of paper, to spell it in turn individually, to turn the paper and write it again. One or two may step to the board and write it, spelling aloud as they write. In the same way, the peculiar danger point in each word in the lesson will be located, emphasized in various ways and learned.

Pupils should be trained also to discriminate between the easy and difficult words in a given list, and to concentrate effort on the latter, rather than thoughtlessly to give equal study to all. For example, of the names of the days of the week there is greater danger of misspelling *Tuesday* and *Wednesday* than the others. Therefore attention should be centered on these.

Besides the analysis and methods of study referred to, it will be found that quick visualizing of the words is a valuable aid in learning to spell them. (Care should be taken first to find out whether or not the pupil's eyesight is good.) After a word is written on the board and erased, the teacher may ask for the third letter, next to the last letter, the second syllable, etc. No pupil can answer unless he has formed a distinct mental image of the arrangement of the letters in the word. The teacher may ask a pupil to turn to some page of his reader (or geography) and look at the last word or the last three words. The book is then closed and the word or words are spelled orally or they are written.

In the list of five words on a previous page, *council* was included to call attention to a class of troublesome words. This class includes those groups of words that sound alike, or nearly alike, but are spelled differently. Besides *council*, *counsel*, there are *to*, *too*, *two*; *respectfully*, *respectively*; *principal*, *principle*; etc. Is it better to teach these separately or together? Experiments and tests have been made to determine which is the better way, but the results have been inconclusive. On general principles, however, it may be said that, if one is a stranger to the word *council*, he would become acquainted with it best by studying it first alone, fixing in mind that a committee meeting is a *council*, that congress is a *council*, that a jury is a *council*; in short, that a *council* is a body of people gathered together for discussion. When this is really fixed and the word is

correctly used again and again, the other word *counsel* may be introduced with little danger that confusion will result. In making comparisons it is always desirable to have one of the things clear, definite and familiar. There is thus a basis for comparison. "One thing at a time" is a safe rule to follow in teaching spelling as in other lines of work.

Variety of methods in teaching and drilling is desirable

The use of varied methods in teaching and drilling is more effective than any one method, both because it adds interest to an exercise that may easily become monotonous, and also because tests seem to show that a combination method of seeing words, of hearing, of spelling them aloud, and of writing them, produces the best results, as the following reports indicate.

A succession of letters in a list of meaningless words as *gemalask*, *hetlimgil*, etc., was read to a class (auditory), then the list was written plainly on cardboard and shown to the class (visual), and finally the children both saw and pronounced the words (combination of auditory, motor, and visual). In the last-named exercise the pupils gained the highest per cent in correct spelling. The three percentages were forty-five, sixty-six, and seventy-four, respectively.

In another school some twenty nonsense words were shown to children, and the request was made that the lips be kept closed or fixed while looking at the combination. Most of the children, however, soon lapsed

into the use of their lips. At another time, while keeping the lips closed, it was noticed that the fingers and hands were unconsciously moved as if to call off the letters silently. So strong does this tendency appear to be that it is evident that the motor accompaniment is usually helpful in learning to spell.

In a series of experiments with upwards of seven hundred children, between the ages of six and twelve years, various modes of presenting words resulted in the following relative numbers of misspelled words:¹ —

<i>Mode of presentation</i>	<i>Per cent of error</i>
Words heard	6.48
Words heard and spelled aloud by pupil	4.66
Words seen	2.60
Words seen and spelled aloud by pupil	2.27
Words seen, spelled aloud, and written by pupil ...	1.00

PUPILS' PRIVATE STUDY

It cannot be too much emphasized that the teacher's instruction and the class study have for their constant purpose to replace the pupils' natural haphazard way of studying by thoughtful, systematic ways. Therefore they will be questioned frequently as to how they studied such a word, or the lesson as a whole; and the teacher will remind them to use such and such a method when they study a particular lesson by themselves. Their private study should imitate both the method and the spirit of the lesson with the teacher.

The home lessons should be studied with the same thoughtfulness. Spelling is one of the subjects in which

¹ Dr. J. W. Baird, Clark University, *The Psychology of Spelling*.

parents can render substantial aid. Children who take home lists of words to spell should first be tested, both orally and in writing, to see how many they know, the others being noted for further study. After the latter have been studied the test can be given again until all are recited correctly. Word games, anagrams, etc., may be brought to the attention of the pupils by having them tried in the schoolroom. Many children will secure the necessary material and play the games at home, and all poor spellers should be urged to do so. The words assigned for home work should be first studied with the teacher in school, except possibly in the upper grades, *provided* the pupils have acquired the habit of thoughtful study.

TESTS AND REVIEWS

Generally tests should be written. In the higher grades the test on a single lesson should be on the day following the assignment or study. By this delay, time is allowed for fixing the words in mind and the exercise becomes a review as well as a test. There should be tests in word study, in methods of private study, as well as in spelling.

Children may test one another at the close of a study period by giving the words for oral or written spelling. Each one may test himself by comparing his own spelling with the words in his book or on the board.

The common practice of having each pupil mark his own or his neighbor's paper is a good one. While this

saves the teacher much labor, it serves a more valuable purpose in cultivating in each child the habit of looking critically at words. But the marking of papers by pupils needs careful supervision. The teacher may profitably mark a few papers every day, particularly of those who may be careless, and the work of each pupil ought to be examined often enough to keep the teacher in touch with individual strength and weakness.

Occasionally oral tests may be introduced for the sake of variety. The old-fashioned spelling matches, "spelling down" contests, have still their limited value as class exercises, provided the words used have been previously studied.

In all spelling tests a high standard should be expected. If only those words that have been studied appear in the test a minimum of ninety per cent correct spelling may properly be demanded.

The teacher's work also may be tested by the quality and spirit of the spelling lesson as well as by the pupils' success in spelling a list of miscellaneous words.

Reviews are necessary, particularly of common words liable to be misspelled. If, in general, only those words are studied for spelling that are to become a part of the pupil's everyday vocabulary, these must be brought into use again and again, and not in the spelling lesson only. It must not be assumed that a given word is really possessed because it has been used

in an isolated sentence and has been spelled correctly once or twice.

Among the available devices for testing and review the teacher will find dictation exercises very useful. The selection for dictation ought to be brief, easily understood, and it should be studied with the class before it is dictated, unless it is used as a test for words already studied.

For such study as is here outlined, not more than two or three *new* words could be considered in one period in the primary grades, and not more than five new ones in the grammar grades. Two to five review words might be added. Three lessons per week of from ten to fifteen minutes, according to the grade, is ample time to assign to this subject provided spelling is not neglected in the written work of other subjects. In this time it is possible to give all needed instruction, class study and drill; for no one lesson will call for a discussion of all or of any large number of the points here mentioned.

TYPE LESSONS

To summarize and illustrate the foregoing discussion, two type lessons are given:¹—

a

Time limit — twenty minutes

1. Write one of the words on the blackboard and teach it in accordance with the following plan. Then write the

¹ Reported by Principal H. C. Pearson in *Teachers College Record*, January, 1912.

next word, teaching it in the same way, and so on, with the rest of the words.

- (a) While writing the word, pronounce it distinctly.
- (b) Develop the meaning orally, either by calling for a sentence using the word or by giving its definition.
- (c) Indicate the syllables. Call on pupils to spell orally, by syllables. Have them indicate what part of the word presents difficulties, or whether the word contains parts they already know.
- (d) Have pupils write the word, pronouncing it softly as they write. It would be well to have a new sentence given, using the word, before they do this. This is to emphasize strongly the meaning of the word again just before the child writes it.
- (e) Allow the class a moment in which to look at the word again and then have them close eyes and try to visualize it, or use any other device of a similar nature. Have considerable repetition, both oral and written.

2. After the various words of the day's lesson have been studied in this way, allow a few moments for studying again the whole list, suggesting that each pupil emphasize the words he thinks he does n't know. This time should be limited so that every pupil will attend vigorously and intensively. Call upon pupils individually and in concert to spell the whole list without looking at the board. Refer them to the board again if they hesitate.

3. Then erase all words from blackboard and dictate the words to the class, using each word in a sentence first.

b

Time limit — fifteen minutes, including the dictation

1. The first word was written on the board in the presence of the class, and then studied as follows: —

- (a) Its meaning was given, and used in a sentence.
- (b) It was spelled aloud in concert, and individually by the poor spellers.

- (c) Its peculiarities, such as silent letters, *oi* and *ie* combinations, etc., were pointed out.
- (d) The word was written once, twice or three times by the pupils who spelled silently as they wrote.

2. Each word in turn was written on the board and studied in the same way.
3. Next the whole column was reviewed orally, the children first spelling each word from the board and then turning from the board, spelling again (either silently or aloud) and verifying results by consulting the board.
4. The words were then erased from the board. Papers were put out of sight, and the words were dictated.

RULES FOR SPELLING

Rules for spelling were highly thought of in times past and pupils were compelled to memorize a considerable number of them. But the English language has never subjected itself to the yoke of spelling rules and grammar rules. It is too much alive. It has an ancestry that is too miscellaneous to be thus harnessed by formulas and generalizations. The rules that have been made are supplemented by so many exceptions that they are of little use to any one but the philologist.

However, four of the most common rules are suggested here. If they are taught, they should be scattered through the grades, and they should be taught inductively, formulated by the teacher and pupils studying together a number of illustrative words: —

Rule 1. Final *y*, when preceded by a consonant, is generally changed to *ie* when a letter or syllable is added. Ex., *lady, ladies; berry, berries; fly, flies; dry, dries; bury, buries*;

mercy, mercies; hurry, hurries. But final *y* is retained before a syllable beginning with *i*, to prevent the doubling of the *i*. Ex., *dying, trying, flying*.

Rule 2. Final *y*, preceded by a vowel, generally remains unchanged when a letter or syllable is added. Ex., *day, days; lay, lays; key, keys; chimney, chimneys; valley, valleys; essay, essays*.

Rule 3. Words of one syllable ending in a consonant preceded by a single vowel, double the consonant before a suffix beginning with a vowel. Ex., *big, bigger; wit, witty; rob, robber; clan, clannish*.

Rule 4. Words of more than one syllable, accented on the last, and ending in a single consonant preceded by a single vowel, double the final consonant when a syllable is added. Ex., *permit, permitting; begin, beginning; infer, inferring; defer, deferring*.

But, after all, if one must stop to give a rule before he is sure that his spelling is correct, he can scarcely claim to *know* the word. It would be better to learn the spelling so thoroughly that the rule is unnecessary.

INTEREST

But to make progress in spelling a pupil must be interested in his spelling tasks. Dr. Dewey writes:—

Interest is obtained *not by thinking about it and consciously aiming at it, but by considering and aiming at the conditions that lie back of it, and compel it.* If we discover a child's urgent needs and powers, and if we can supply him with materials, appliances and resources . . . we shall not have to think about interest.¹

Somehow or other, then, the spelling work must be so organized and directed that the pupils will have an inner impulse that incites them to it. The mere fact

¹ *Interest and Effort in Education.*

that a task has been assigned produces this working impulse in a few children. The fear of punishment arouses it in a few others. But there are other means available that are likely to appeal more strongly to different types of personality.

A person is always most interested in carrying out plans he has helped make. Children as well as grown people put more heart into working with others than they do into working for others. If they are allowed to coöperate with the teacher they will be found fertile in suggestions. This is one reason why the teacher-class study lesson is proving so useful.

The teacher may secure this coöperation by asking pupils to bring to class special lists of words, such as those used on the playground, in the home kitchen, those relating to dining or sleeping rooms, etc. He may invite them to appoint committees to make special lists, one for sign boards (omitting proper names), another for grocery stores, etc. Unusual words will be brought in, but here again the teacher may allow the pupils to pass judgment, and themselves exclude those that are undesirable for use in the spelling lesson.

Not only may pupils profitably help select the words for study, but they may be made partners in determining the parts of words that require special attention.

It has been found very stimulating to teachers and pupils to coöperate in the making of a "school district list," the several schools of a district making individual lists that are used for the larger "district" list.

Competition in its varied forms is a legitimate incentive. It appeals to a universal human interest. There are two kinds of competition. Two persons may compete with one another, or each one may compete with himself, i.e., he may try to improve his own record. The latter kind of competition is fully as interesting as the former. The athlete tries to surpass himself until the field-day arrives, when he pits his best self against his rival. The golfer tries to raise his own score. The girl tries to improve her own technique by practice on the piano.

This kind of competition ought to be employed in school much more than it is. If Johnny does better to-day than yesterday, he may not receive a gilt star, indicating perfect; but he should receive a red one, meaning, "Look out for Johnny. He's coming along."

A row of pupils may strive to better the average of the row as well as to outdo the next one. A room may raise its average, if it cannot always be the banner room of the building.

School district and county spelling contests will arouse the interest of all the schools that compete, and be of great benefit provided those in charge restrict the words to those in common use, give prizes for perfect scores, and also take into account the quality of work done in preparation for the contest. The "spelling-down" contest in which unusual words are used to eliminate the contestants is likely to promote unsound and indefensible practices in the school.

Another form of contest consists in having each member of a class write a paragraph in which a number of words is to be used. The paragraph best in thought, expression, and punctuation may be used as a dictation exercise. This paragraph may be selected by a small committee of the class, one member of which may be one of the poorer spellers.

The spelling lesson may be made one of the most interesting of school exercises. It has the always attractive quality of brevity. The lesson may be most varied in character. It should be pointed and snappy. If the words are well selected and pupils are made partners with the teacher, they will like to spell. In fact, it has been the experience of many teachers that a larger degree of success may be attained in spelling than in any other subject.

COLLATERAL READING

1. *On spelling lists:* —
The Child and His Spelling. W. A. Cook and M. V. O'Shea.
Chapter XII.
2. *On conclusions of a scientific study of spelling:* —
Spelling Efficiency in Relation to Age, Grade and the Question of Transfer. J. E. W. Wallin.
Chapter VI.
3. *On teaching spelling:* —
The Teaching of Spelling. Henry Suzzallo.
Chapters VI, VII, VIII, IX.
Also the following: —
Measuring Scale for Ability in Spelling. Leonard P. Ayres.
“The data of this scale are computed from an aggregate of 1,400,000 spellings by 70,000 children in 84 cities throughout the country. The words are 1,000 in number and the list is the product of combining different studies with the object of identifying the 1,000 commonest words in English writing. Copies of this scale may be obtained for five cents apiece. Copies of the monograph describing the investigations which produced it may be obtained for 30 cents each. Address the Russell Sage Foundation, Division of Education, 130 East 22d Street, New York City.”

Penmanship

That teachers generally are somewhat impatient over the many radical changes that have been made in the teaching of penmanship during the last twenty years is not to be wondered at. No small part of the cause of these changes was the laudable spirit of experimentation to better the teaching of a subject in which results were unsatisfactory. It must be admitted, however, that many times changes have been due to a feverish ambition to be progressive, and that often a new system has been adopted for superficial reasons. But standards of attainment and standards of method are showing their beneficial influence in the teaching of penmanship as they are in the teaching of other subjects. As these standards prevail, generally accepted methods to realize desirable purposes will be established. Changes will be in detail only, as farther experiment and investigation throw additional light on the subject.

Points on which there is general agreement

While, then, the final word has not been said on the teaching of penmanship, there yet appears to be agreement on a few fundamental points that are here briefly stated: —

1. In judging the penmanship of pupils the method of writing, — that is, pen holding, movement, ease, and speed, — should be considered, as well as legibility, and beauty of line and form.

2. A moderate slant is better than vertical writing, or than an extreme slant. Uniformity of slant is more important than conformity to a particular degree of slant.
3. A method of writing by which the arm muscles are used for the fundamental movements, with the fingers acting as assistants, is productive of better results than a method that makes use of the fingers alone.
4. Copying is not a good method of teaching penmanship. There should be systematic instruction in word and letter forms, in pen holding and movement, followed by practice.
5. To establish desirable habits in writing, the instruction given in penmanship lessons must be applied not simply in those lessons but at all times in all written work.
6. The forms written by young children should be large.
7. The teacher should himself practice a correct method of writing. If he does not exemplify the methods he is teaching, pupils have little reason to adopt them.
8. A well-graded series of copybooks or copyslips is desirable, as a guide for teacher and pupils.
9. The individuality of pupils should be respected in teaching penmanship as in teaching other subjects.

The qualities of good penmanship

A teacher's conception of what constitutes good penmanship determines the demands he makes on the pupils and his methods of instruction. If his chief concern is to secure artistic samples of writing for display, the pupils will spend their time in the penmanship lessons making copies of models that he has selected. He will be indifferent to the way they write. His interest centers in the product.

But the teacher who views penmanship as a practical art that all must daily use more or less, will rate crafts-

manship as no less important than the product. He will recognize that the product in penmanship as in all other crafts is beautiful if it serves well its purpose.

Legible and fluent writing possesses this practical beauty and is much more serviceable than the ornate. Some pupils may have a preference for elaborate penmanship. They like to make scrolls and flourishes. Those pupils will need little help. But the teacher will give his chief attention to training pupils to make letters that are without flourish, that are of legible size and well proportioned, that have a moderate and uniform slant, that are well and uniformly spaced, and that have lines which are firm and unshaded.

Speed is also a quality of good penmanship. Children differ in their ability to develop it without sacrificing form, but the teacher should try to have each pupil do all his writing without haste but at an efficient rate of speed. To this end special exercises should be given in the penmanship lessons.

But when it is agreed that the penmanship taught in school should be the unadorned, legible, fluent sort that will serve best the everyday needs of common life, there are still likely to arise differences of opinion as to whether a particular specimen meets these requirements.

Penmanship standards have been proposed. They consist of a number of carefully selected specimens arranged in a series, exemplifying types of penmanship, ranging from poor to excellent as judged from

the practical point of view. There are at present three such series of standards or scales as they are called. One has been devised by Dr. Edward L. Thorndike, of Columbia University, New York; one by Dr. Leonard P. Ayres, of the Russell Sage Foundation, New York City; and one by Mr. Harry Houston, Supervisor of Penmanship, New Haven, Connecticut. The Houston Scale takes into account the element of speed, and the others do not. These scales have a very limited use, they are not easy to apply as standards of judgment, but they are helpful as indicators, pointing to the homely virtues of penmanship in its character of common servant in common affairs. With guidance pupils may receive some benefit by comparing their own writing with the samples in a scale. Having located their writing in the lower or middle range they may then put for themselves the task of bringing it up a grade higher.

The conduct of a penmanship lesson

The following summary of a penmanship lesson suggests a good method of instruction and training:—

Material should be passed and collected in an orderly way.

The teacher should write the copy on the board so that pupils may observe the process. This writing should be large. Lines may be drawn on the board five or six inches apart, representing the lines on the pupils' paper. The blackboard copy should fill the same space proportionately between the lines that the writing of pupils is expected to fill on their paper. While writing the copy, the difficult letters and com-

bination may be discussed and corrections made in previous lessons may be recalled.

Position and pen holding are of first importance. Special exercises and drills for them are desirable at the beginning of a lesson, and they should be introduced at any other time when the class needs them.

The speed ought to be governed by the ability of the class. It should be as fast as is consistent with the making of good forms, and should increase from grade to grade. In class exercises all should keep together. At other times individual ability should govern speed. The teacher ought not to "count" all the time, but only enough to indicate the speed desired. Pupils should learn to be self-reliant.

There should be frequent comparison of the pupils' writing with the copy. The teacher may make sure that proper attention is being given to the copy by stopping the writing and asking: "Is your writing too large or too small? Is the spacing too narrow? Is there too much slant or not enough?"

The blackboard ought to be used often by the teacher to show how the faults noted may be overcome, and by pupils to correct individual faults.

When pupils have difficulty in correcting a fault, they may go for a time to the opposite extreme until the old habit is broken. If the writing is too small, it may be made too large. If a letter is too short, it may be made too long.

Instruction should be more by showing than by telling.

The most conspicuous or fundamental faults should be corrected first.

When the penmanship is generally poor and the class is large, the class method of instruction should predominate, individual help being reserved for those who need it most. When a majority of the pupils write well, it is possible to give more individual instruction.

Interest and enthusiasm may be aroused (a) by the teacher's interest and enthusiasm, (b) by preserving and exhibiting written work, (c) by making booklets of specimens of exercises and other penmanship work, (d) by exchanging specimens between classes and rooms, (e) by placing on the board names of pupils making improvement, (f) by having com-

mittees of pupils designate those who are writing in the best position, (g) by friendly rivalry between rows or classes or rooms.

To supplement this summary of a penmanship lesson, several phases of the lesson will be specially considered. The following specific statements will indicate the points to be attended to in position and pen holding:—

1. Both feet should rest on the floor.
2. The body should be well poised and inclined slightly forward.
3. Nearly all of the forearm should rest on the desk.
4. The upper and the lower arm should form a right or an obtuse angle, but never an acute angle.
5. The paper should be turned so that the forearm is at a right angle with the lines of the paper.
6. The arms should remain on the desk and the paper should be pushed forward.
7. The left hand should be kept at the left edge of the paper opposite the right hand.
8. The forefinger should be one inch from the point of the pen or pencil.
9. The thumb should be bent considerably and rest about one and one half inches from the point of the pencil or pen.
10. The hand should be about half closed, holding the pen or pencil without tension.
11. The third and fourth fingers should be folded back a little, the ends resting on the paper, supporting the hand.
12. The hand and wrist should not rest on the paper.
13. The penholder should point over the upper arm.
14. Both pen points should rest squarely on the paper.

If these directions are followed, or, what is better, if the position of the pupils is tested and corrected by

these directions, a natural and healthful position will be assured. Any position that interferes with the free use of the circulatory and respiratory organs, or that is strained, should be corrected at once.

The kind of muscular action used in writing is most important. The movement to be finally used in all writing is fundamentally the arm movement. Many expert writers use the arm movement only — other equally good writers use a combination of the arm and finger movements. Movement drills should be given persistently, as they will lay the foundation for good penmanship.

Left-handed pupils

Left-handed pupils are somewhat of a problem for the teacher of penmanship. Unless a pupil uses his left hand skillfully, he should be urged to learn to use the right hand, especially in the lower grades. If, however, the left-hand habit has become fixed, it is very difficult to change it after the age of twelve years. Pupils may be helped to use the right hand by giving them a large amount of practice on the blackboard. They will find it easier to use the right hand in the large movements of blackboard writing than in the smaller movements with the pen. To further encourage this change, arithmetic and composition exercises may be done on the board on condition that the right hand is used. Little however can be accomplished unless the pupil himself seriously desires to become a right-handed penman.

Use of the blackboard

During the penmanship period the teacher will be active in directing the class in movement drills, in discussing letter forms and in watching and helping individuals according to their need. To do these varied things with economy of time and effort he will make frequent use of the blackboard. By it he can give pointed suggestions and illustrate a direction or a correction. But he will not be unmindful of the fact that children seated in different parts of the room see the board from different angles. It thus happens that all do not see alike what is written. Moreover, a few may not see it clearly because of poor eyesight, or because the light does not strike the board at an angle favorable for them. However, as training in hygiene becomes effective, pupils will take care of these matters very largely themselves.

Although the teacher cannot instruct successfully in penmanship without the blackboard, the limitations just referred to make it undesirable for general use in setting copies. It is best used for instruction and illustration. Pupils should find their guides for form, size and slant for the most part in copy-books or on copy-slips.

While illustrating on the board the teacher should be careful to stand so that pupils may see the writing or the exercise as it is formed under his hand. While this is important in all grades, it is particularly so in pri-

many grades. Firm, white lines should be used in blackboard writing. The quality of the line is much more important than the size of the letters. Next in importance to the whiteness of the line is the space between the lines.

Time to be given to penmanship lessons

To secure desirable results in penmanship an adequate amount of time must be devoted to it. This is as necessary as is the use of good methods. It is much more profitable, however, to have occasional short periods of stimulating instruction and intensive practice than to have long periods of undirected copying. Good results ought to be possible if an average of sixty minutes per week are given to such study and practice as is here recommended. This time should be divided into periods of ten to twenty minutes each, the longer periods prevailing in the upper grades.

In schools with several grades the entire school may be taken together for movement drills, but not more than two or at most three different grades of copy-books should be used in such a school.

Penmanship and other subjects

It is too often the case that the teacher's interest in position, pen holding and movement is confined to the penmanship lessons. At other times he is concerned solely with the appearance of the written papers. Such an attitude will surely lead to a similar indifference

on the part of the pupils, delaying the progress they would otherwise make.

The penmanship lesson is, of course, not an end in itself. The effects of it should appear whenever the pupils write, and if they do not appear, the lesson has been useless. Somehow or other the teacher should project her penmanship influence into all the pupils' written work. This should be done not alone by criticizing the result, but by putting the weight of influence at the equally important point — the process. It is not difficult to do this, for occasionally the teacher may take a couple of minutes to inspect those who are writing at their seats, noting position, movement, etc., calling attention to what is good or poor in these particulars. A list may be made of those who habitually write in the correct way, and to this list names may be added as the honor is deserved. Principals also may add their influence by making mention of these matters as they pass from room to room.

Arithmetic is a subject that needs particularly the penmanship teacher's attention. From time to time in each elementary grade, but especially in the seventh and eighth grades, arithmetic papers and the arithmetic work done at the board should be viewed from the standpoint of the figures, their form, size and pleasing arrangement. Where these are crude and faulty, time should be taken in the arithmetic period to repeat and to put into practice the instruction of the penmanship lesson. In every grade some pupils will be found

who will not make good figures without individual instruction and special drills. This should be given wherever the need for it is discovered, for every teacher is first a foundation builder, and second a builder of superstructures. The prime duty of each is, then, to discover weaknesses in the foundations, and having discovered them, not to waste time criticising former teachers or the pupils' lack of opportunity, but to strengthen the weakness. A foundation weakness, all too common in elementary mathematics, is in the making of figures.

Tests in penmanship

The sort of tests that are given in penmanship will determine largely the kind of work teachers and pupils will do. For both must and will prepare for the expected test.

There is an uneducational use of tests, as well as an educational use. If they are used solely or principally to disclose what pupils do *not* know or *cannot* do, they become scourges under the blows of which the weak fail. But if they are used to reveal to the teacher and to each pupil what has been done well, what success has been attained in a given period of study, *indirectly* revealing the weaknesses, tests become milestones of progress. Pupils do not dread approaching a milestone. It is a proof of progress. However, milestones lose much of their interest if they are placed at quarter-mile intervals. Tests should not be too frequent.

Most tests then should be given to measure improvement — not so much general as particular improvement. There should be separate tests for each element that goes to make up good penmanship. For instance, the teacher may say at the beginning of a lesson, "We have been trying to write with good, uniform spacing. I shall rate each one to-day on the improvement he has made in spacing." In the same way at other times improvement in pen holding, movement, etc., may be tested.

It is possible to devise a general test in which all these elements are included. The following is suggested. The time limit and the vocabulary of the selection are appropriate for the eighth grade.

A typical test in penmanship

The following selection is to be copied or written from dictation. Pupils should be allowed to read the selection through before writing it.

Those giving the test will need to observe the pupils as they write in order to rate them on items (1) and (2).

Pupils will record at the bottom of their written paper the time taken in the test.

In rating allow (1) 20 points for position.

(2) 20 points for correct and easy movement.

(3) 5 points for speed.

(4) 10 points for good size.

- (5) 10 points for good, uniform slant.
- (6) 10 points for good shape of letters.
- (7) 10 points for good spacing.
- (8) 10 points for beauty of writing.
- (9) 5 points for improvement since the last test.

(Extract from a letter of Lord Chesterfield to his son)

Name, School,
Date,

LONDON, July the 30th, 1747.

DEAR BOY:—

As you must attend to your manners, so you must not neglect your person; but take care to be very clean, well dressed, and genteel; to have no disagreeable attitudes, nor awkward tricks; which many people accustom themselves to, and then cannot leave off. Do you take care to keep your teeth very clean, by washing them constantly every morning, and after every meal? This is very necessary, both to preserve your teeth a great while, and to save you a great deal of pain. Mine have plagued me long, and are now falling out, merely for want of care when I was your age.

My Lord Bacon says that a pleasing figure is a perpetual letter of recommendation. It is certainly a forerunner of merit, and smooths the way for it.

Your PAPA.

Note:— The actual writing of these paragraphs should not require more than ten minutes. If more time is used, give no credit for speed.

Use a penmanship scale if possible, in judging the qualities of the specimen of writing.

IN PRIMARY GRADES

It is the general custom in this country to begin the teaching of writing and of reading at the same time. A pencil of large size and soft lead is the best for use during the first months, and pupils should practice much at the blackboard.

It will be necessary to teach pupils to hold the crayon properly between the thumb and first finger with the upper end pointing *into* the palm of the hand. Half a crayon is as long as can be used. Pupils should stand squarely on both feet, facing the board and not too close to it. The first aim is to get the form in the rough, and the pupil ought not to be hampered or confused by many details or by too high a standard of perfection. Pupils should not be subjected to strain of eye, of nervous system, or of muscles of body or hand. The teacher will remember that in teaching penmanship to children of six and seven years of age, the school is forcing upon them a training that their nervous and muscular systems are not yet adapted to take. The strain will be lightened, if the teacher keeps the writing large, and especially if she keeps the amount of it within reasonable limits.

Moreover, too much should not be attempted at one time. A short teaching exercise in which one point is emphasized followed by practice on that point is better than lengthy instruction on several points with little practice, or all practice and no instruction. The prac-

tice will show to the teacher whether or not instruction has been understood. At times a point must be taught again. It is often well to have the class imitate the teacher as he makes a letter or illustrates a position or movement. At other times, John and Mary may step to the board and practice until improvement or grasp of the idea is evident. At other times, an entire row may work at the board. Under sympathetic instruction that is brief, pointed, individual, and optimistic, a class is bound to be happy at its work, and to improve.

While in many important particulars there is no disagreement among directors of penmanship teaching, in other particulars there is a very decided difference of opinion and of practice. For instance, there appears to be no common custom in beginning the use of pen and ink. Some prefer to have pupils use these the first day of school, others would delay until the third or fourth year. Probably the growing custom is to introduce them during the second year. The exact time is doubtless not so important as the way in which penmanship is taught. A large penholder, a large pen with round point, practice in making large letters, and short periods of writing, will reduce the causes of weariness that lead to cramping the hand and to other harmful habits.

While the emphasis in the early years is on form, at the same time the forms should be produced with increasing ease and freedom. To this end, movement

drills that lead to the various letter forms and their combination should be practiced from the beginning.

Large sheets of rough, unruled paper are best for the early writing exercises. Wax crayons or large, soft pencils will promote a freer movement than smaller tools.

When it is time to use a pen, one of large size with a smooth, round point should be selected.

Good paper should be furnished for use with the pen. Paper ruled with a base line only should be used. The distance between lines should be as follows: —

First Grade — one inch.

Second Grade — five-eighths inch.

Third Grade — half inch.

Fourth Grade — three-eighths inch.

In schools with several grades, it will be well to have but two kinds of paper. The five-eighths inch ruling may be selected for the first and second grades, and the three-eighths inch ruling for all other grades.

Pencil, pen, paper and ink should be carefully selected. Good work cannot be done with poor materials and poor tools. Children should be taught to use materials economically and to take good care of their tools. Some of the most valuable practical habits may be formed in the process of learning and practicing good penmanship. Among these habits may be mentioned neatness, orderly and pleasing arrangement of work, care in attending to details, economy in the use of material and self-criticism.

IN INTERMEDIATE GRADES

In the intermediate grades [fourth to sixth] the child should begin the formal drills which will enable him to acquire greater skill and fluency in writing. . . . This development of skill and facility in the use of the pen should be accomplished, in the main, in two or three years. . . . At the beginning of this period the form of the writing is likely to deteriorate for the time being. This is not at all a serious matter, and the form will soon improve if the drill is wisely chosen and the speed which is used is not too great.¹

The quality of materials and of the tools has been referred to in a previous paragraph, and the recommendation has been made that paper ruled with base line only should be used in all grades, and that, beginning with the fourth grade, the space between these base lines should be three-eighths of an inch.

As to pens, they should be smooth, sufficiently flexible to be used without much pressure, and finished so that they will hold ink, but allow it to flow without blotting. They should not be too fine.

The penholder should be about three-eighths of an inch in diameter at the bottom, and may be of wood, cork, or rubber; never of metal.

IN GRAMMAR GRADES

In schools where a single policy has been pursued in penmanship instruction, and where teachers have been fairly efficient in their instruction and training, a majority of the pupils will have become habitually good

¹ Frank N. Freeman, *The Teaching of Handwriting*.

writers by the time the seventh grade is reached. If, however, the subject has been neglected in previous grades, the time allotted in the seventh and eighth grades should be increased. Special exercises should be arranged, if possible, for the poorest writers, or they may be allowed to go to another room for writing lessons.

Interest in penmanship in these grades may be kept alive by frequent tests for speed, for form, for ease and fluency.

What has previously been stated regarding the quality and selection of material and of writing tools in the lower grade applies in these grades also. In the seventh and eighth years pupils should be given considerable practice in writing on unruled paper, since the stationery used in social and business correspondence is unruled. If pupils have learned how to write, they do not need base lines or other helps. If there is no unruled paper, a large sheet of ruled paper may be turned so that the writing will be across the lines.

With instruction and adequate practice, at least one half of the pupils should be good to excellent penmen at the close of their elementary school course.

COLLATERAL READING

1. *On teaching penmanship:* —

(a) *Psychology and Pedagogy of Writing.* Mary E. Thompson.
Chapter IV.
(b) *Genetic Psychology for Teachers.* C. H. Judd.
Chapter VII, pages 219-35.

2. On minimum essentials: —

The Fourteenth Yearbook of the National Society for the Study of Education.

Part I, Chapter V.

Also the following book: —

The Teaching of Handwriting. F. N. Freeman.

A summary of the most recent discussions on the subject. Treats of the various elements in handwriting and grade standards with suggestions for their application.

CHAPTER III

MATHEMATICS

THE influences that are affecting the teaching of elementary mathematics are the same that have been referred to in the introductory chapter and in the chapter on "The Teaching of English." These influences are bringing instruction in this subject more into harmony with the nature of children and more into conformity with the demands of society.

Both of these sets of influences operate to make elementary mathematics less academic and more practical; less abstract and more concrete; less an "attainment" and more a useful servant. Two definite results are evident: first, a narrowing of the field of study, and second, an increase of emphasis on skill in the more restricted field.

Arithmetic ELIMINATIONS

In admitting the justice of the demand that there be taught in the elementary grades only that kind and amount of mathematics that is useful in common life, it follows that all subjects and parts of subjects in arithmetic, that are not found in common business practice, must be dropped from the course of study.

Among these subjects are:

Cube Root and Square Root with large numbers: (The square and cube root of numbers, whose roots are discoverable by inspection, should be learned — the squares of numbers at least to 12, some may think to 25, with the corresponding square roots; the cubes of numbers at least to 5, some may think to 10, with the corresponding cube roots.)

Greatest Common Divisor and Least Common Multiple: (Fractions with denominators larger than 16 are seldom found in business. Fractions with denominators to 64 are often found in machine shops as *units of measure*, but there is no call to calculate with these fractions except in the office of the expert. Those with large denominators are expressed in the decimal form. The common denominators of the fractions of common business and all the factoring needed in using such fractions can be calculated mentally.)

Uncommon applications of Percentage: (In business it is seldom, if ever, required to find "the whole" when a part is given. The business man knows "the whole," i.e., his capital and his costs. He needs to find "the part," i.e., gains and losses, as related to capital and costs, expressed in common and decimal form.

In interest problems, also, for the reason just given, it is unnecessary to teach "finding the principal when time, rate and interest are given," or "finding the interest" for unusual rates or for periods not common in business practice.)

True Discount, Partnership, Compound Proportion, Tables of Surveyors' Measure, Troy and Apothecaries' Weights, Paper Measure and obsolete units in all other tables.

Problems in Taxes, Insurance, Bonds, Stocks, Partial Payments, Bank Discount, Compound Interest, Longitude and Time, Ratio and Proportion, Lumber Measure should be of the simplest kind and they should be used for their informational as well as for their mathematical value.

Mensuration of Spheres and Frustums of Pyramids and Cones : (It is desirable that the study of mensuration should be based on real, objective experience. The kind of problems should be determined by circumstances. Farm children may profitably calculate the capacity of *bins* and *silos*. City children will get more profit from solving problems relating to *streets*, *sidewalks*, etc. The problems of the *paper-hanger*, *carpet-dealer*, *plasterer*, *floor-layer*, and *bricklayer*, are specialized trade problems subject to trade practices and should have little attention in the elementary grades.)

The *Metric System* in this country is a specialized form of mathematics used in the sciences only. It is, at present, like simplified spelling, theoretically desirable, but it has little likelihood of being immediately adopted for general use. A few lessons may be given for information.

THE FIELD OF ELEMENTARY MATHEMATICS

There will then remain as the legitimate field of elementary mathematics: —

- I. Counting numbers.**
- II. Reading numbers.**
 1. Integers — Arabic and Roman.
 2. Common Fractions.
 3. Decimal Fractions.
 4. Denominate numbers.
- III. Writing numbers.**
 1. Integers — Arabic and Roman.
 2. Common Fractions.
 3. Decimal Fractions.
 4. Denominate numbers.
- IV. The Processes.**
 1. Addition.
 2. Subtraction.
 3. Multiplication.
 4. Division.

(a) Integers.
(b) Common Fractions.
(c) Decimal Fractions to
three places.
- V. Percentage applications.**
 1. Trade or Commercial Discount.
 2. Profit or Loss.
 3. Commission.
 4. Simple Interest.
- VI. The following subjects should be treated largely for information purposes: —**
 1. Taxes.
 2. Insurance.
 3. Stocks.
 4. Bonds.
 5. Bank Discount.
 6. Compound Interest.
- VII. Denominate numbers in useful problems of community value.**
- VIII. Geometry in so far as it is required in mensuration and in making and reading working drawings in shop work.**

IX. Algebra in so far as the use of letters is required in simple formulas in mensuration and in simple problems solved by the equation method.

MATHEMATICAL SKILL

If the field of elementary mathematics is to be thus limited by the needs of common business, there will be ample time for training for skill, in response to the long-time complaint of business men that their young employees are not able to use skillfully the mathematics they have studied in school. This complaint constitutes a demand that should not be overlooked.

Mathematical skill has three phases that are clearly separable. One phase is understanding the problem or interpretation, another is "figuring" or calculating, and the third is use or application.

If one is to be skillful in any department of life, he must know how to attack his problems, how to analyze them so that a correct and a reasonably speedy determination may be made of what the problems call for, and of the data that they give for the solution. More and more all work in school is becoming a process of solving problems, thereby acquiring the character of the world's work. But no subject is so clearly problematical in its nature as mathematics. For this reason, more than for any other, mathematics has held its unique place in the estimation of scholars as *the "mental discipline" subject*.

But in their haste to get answers to problems, teachers have too often neglected the preliminary thinking

about the problem, which is necessary to its intelligent solution. Or, if they have not entirely neglected it, they have not realized that if a pupil could habitually attack his problems in the right way, half his mathematical difficulties would not arise to bother him.

Skill in interpretation

This attack is a process of interpretation, and is divisible into five parts. *First*, the pupil must read the problem and understand what it means. *Second*, he must state in his own words what the problem calls for, i.e., what kind of answer is to be sought. *Third*, he must find the material that the problem gives him to work with. *Fourth*, he must determine how this material should be put together to reveal the required answer, i.e., the process or processes. *Fifth*, he should roughly estimate the probable answer as a check upon his later, more careful calculations.

To illustrate these five parts of the process of interpretation, the following problem may be taken:—

A dealer buys 250 lb. of twine at 19¢ a pound. He sells it at 25¢ a pound. How much is the profit on the whole?

First, the problem is read carefully, silently, and then, if desired, orally.

Second, the problem calls for the profit on all the twine, 250 lb.

Third, the problem states that one pound of twine cost 19¢, and sells for 25¢.

Fourth, the profit on one pound is found by subtracting 19¢ from 25¢. The profit on 250 lb. is the profit on one pound multiplied by 250.

Fifth, \$.19 is approximately \$.20. Then \$.05 is approxi-

mately the profit on one pound. If the profit were \$.10 per pound, the profit on the whole would be \$25. As the profit per pound is half of \$.10, the total profit is approximately half of \$25.00 or \$12.50. The total profit is somewhat more than \$12.50.

Without this preliminary, systematic thinking the pupil must work blindly. For lack of training in this kind of thinking many pupils advance through the grades deficient in the so-called "reasoning" side of arithmetic. This kind of training should begin with the first problem in the primary grades and it should be continued as long as mathematics is studied. Many lessons should be given in all grades in which many problems are studied in this way for practice in interpretation alone.

This is all the explanation a problem needs. The elaborate "explanations" so common in the mental arithmetic of the past is largely language gymnastics, and is mathematical training only in a limited degree. While children are naturally logical, they are not naturally logicians.

Skill in calculation

The second kind of skill required in mathematics is skill in calculation. This depends upon a *mastery* of the essential mathematical processes, and upon an ability to see quickly those relations between numbers that will simplify computation.

First, then, the tables should be learned. A few suggestions are offered regarding the teaching of them.

In addition there are forty-five primary combinations. These are the possible addition combinations of any two digits through eighteen. Of these, twenty-five combinations make ten or less. The twenty-five combinations should become so familiar, before a study of the others is taken up, that the sums and corresponding differences are recognized instantly without calculation; e.g., $7 + 7$ should be seen as 14 without thinking 7 and 7 are 14. Again, $3 + 6$ is thought 9 without adding. It is as easy for pupils to see the sum or difference in these related numbers as it is for them to see the word *at*, without spelling it.

The pupils and teacher should become conscious of the fact that some of these combinations are more difficult to remember than others. The difficult ones should be found and special stress should be laid on them. To repeat in drill exercises the well known facts as often as those about which there is uncertainty is to dissipate energy.

When working with primary combinations above 10, the pupils may be led to see that in adding 10 and 3, they are putting together 3 and 10, making "thre-te(e)n"; and that 4 and 10 makes "four-te(e)n," etc. When 9 and 4 are added, the sum is 1 less than 10 and 4; and when 8 and 4 are added, the sum is 2 less than 10 and 4, etc.

As the work in addition progresses, if the pupils are shown how, they will rapidly *learn to see* the sum of several numbers at a glance and will learn to add more

nearly as they read. In reading, after the words are well known, the mind grasps words and groups of words as wholes; it does not stop to spell the words. In the same way, after learning to see 5 and 3 as 8 *without* adding, it will be just as easy to see 5 and 3 and 2 as 10, without adding. In this way, naturally and without pressure, pupils will learn how to add by combining familiar groups of numbers rather than by combining two numbers only at a time. Later it will not be difficult to acquire the habit of seeing

$$\begin{array}{r} 16 \\ 4 \text{ as } 20, \text{ and } \underline{24} \text{ as } 40 \end{array}$$

without resorting to the slower process.

After the forty-five primary combinations are learned, pupils should be led to build up other combinations for themselves, e.g., $19 + 9 = 28$, $29 + 9 = 38$, $9 + 7 = 16$, $19 + 7 = 26$, etc. This is sometimes called adding "by endings." It should be a preparation for column-adding.

Drill exercises during the first three years should be principally with numbers arranged vertically, as

$$\begin{array}{r} 4 \\ 5 \\ \hline \end{array}$$

rather than horizontally, as $4 + 5$. But to meet the demands of business there should be some practice in adding numbers placed horizontally as well as vertically. This is illustrated in the following tabulated items of expense in a school city:—

	<i>Coal</i>	<i>Books</i>	<i>Salaries</i>	<i>Total</i>
District 1	\$2,000	\$200	\$10,000	\$12,200
District 2	500	50	2,000	2,550
District 3	550	150	6,000	6,700
District 4	450	100	5,050	5,600
Total	<u>\$3,500</u>	<u>\$500</u>	<u>\$23,050</u>	<u>\$27,050</u>

Subtraction is the reverse of addition. Pupils should see the relation between the two processes. Training to *see* the difference, where calculation is not necessary, is as desirable as training to *see* the sum.

Subtraction “by endings” should be taught, e.g.,—

$$\begin{array}{r}
 8 & 18 & 28 \\
 -5 & -5 & -5 \\
 \hline
 3 & 13 & 23 \text{ etc.}
 \end{array}$$

The “addition” (Austrian) method of finding the difference is preferred by some. For example, in the example $9 - 4 = 5$, the pupil will say, 4 and 5 are 9, placing 5 as the answer.

This method of finding the difference, also called the “making-change” method, should be taught and used in all problems that involve transactions in which that method would be used in business. For example, if a purchase is made for \$.75 and a \$1 bill is given in payment, the change is calculated by the trader, not by subtracting the \$.75 from \$1, but by adding to \$.75 enough to make \$1, using such change as is most convenient. He might say, “\$.75 and \$.25 is \$1,” passing to the purchaser a twenty-five-cent piece; or he might say, “\$.75 and \$.05 are \$.80, and \$.10 are \$.90, and

\$.10 are \$1," passing the purchaser a five-cent piece and two dimes.

In multiplication pupils ought to learn very early in the grades that multiplying a number by 10 is the same as annexing a zero to the number; e.g., $10 \times 1 = 10$, $10 \times 10 = 100$. After this is sufficiently illustrated, they may be led easily to adopt the method of annexing one zero when multiplying by 10, two zeros when multiplying by 100, etc. When they have come to use the decimal point, they should be led to see that moving the decimal point in a number one place to the right multiplies the number by 10; moving it two places to the right multiplies the number by 100, etc.

Afterward it will not be difficult for pupils to see the economy that often results from multiplying by 100 and taking a third, when a number is to be multiplied by $33\frac{1}{3}$; multiplying by 100 and taking a fourth, when a number is to be multiplied by 25, etc., etc.

If pupils are to be reasonable and intelligent in their mathematical study, they must understand the nature of the processes which they learn to perform. In addition, they are putting together a number of *like* things. In subtraction, they are finding the difference between numbers of *like* things. In multiplying they are finding the result after taking one or more *like* things a certain number of times, the multiplier indicating "the number of times." Mathematically, then, the multiplier must always be an abstract number, i.e., the number of *times* that the multiplicand is taken. It is evident that

the answer in a multiplication example must always be of the same kind as the multiplicand.

From this it follows that, in problems in mensuration, statements like the following represent extensions of the concept of multiplication that are not only unnecessary, but also undesirable, in the elementary school: 6 ft. \times 3 ft. = 18 sq. ft. Here there are two mathematical errors — first, the multiplier, 6 ft., is not abstract; second, the answer, 18 sq. ft., is not like the multiplicand. Pupils should be led to realize also that if they are to find the area (square measure) from data given in length, they must translate their data into square measure. For example, "Find the area of one side of a board 6 in. \times 3 in."

$$6 \times 1 \text{ sq. in.} = 6 \text{ sq. in.}$$

$$3 \times 6 \text{ sq. in.} = 18 \text{ sq. in.}$$

After the pupils are familiar with the fact that, if they are to have square inches in the answer, they must start with a multiplicand in square inches and that the multiplier represents the number of times the multiplicand is to be taken (as addend), it will be possible to unite the two processes above into one; as, $3 \times 6 \text{ sq. in.} = 18 \text{ sq. in.}$

Of course this principle in multiplication applies to all problems. It would be incorrect to state, 3 qt. \times 2 pt. = 6 pt., or 2 \times 3 qt. = 6 pt. Pupils should not only

1 sq.in.					

Diagram showing graphically the application of multiplication to finding areas.

think but state that 1 quart contains 2 pints, 3 quarts then contains 3 *times* 2 pints; i.e., 3×2 pt. = 6 pt.

This is all very simple for children even in the primary grades, except possibly in problems in which the multiplier is the larger number. They have, however, learned (it may need to be taught again) that the answer is the same, so far as the numbers are concerned, whether one multiplies 2 by 13 or 13 by 2. Therefore, while it is always necessary to think and express (orally and in written form) a multiplication example in its proper order, the actual multiplication may be done abstractly in the most economical way.

Division also has possibilities of economy in calculation. Pupils should early learn to divide by 10, 100, etc., by crossing out or dropping one or more right-hand zeros, or by moving the decimal point to the left. If they wish to divide by $33\frac{1}{3}$, they should learn that it is often easier to divide the number by 100 and then multiply by 3, etc. These economical ways of calculating should become the natural and easy ways both in oral and written work.

There is an understandable relation between division and multiplication as there is between addition and subtraction, and multiplication drills may be given in division examples; e.g., $16 \div 4 = 4$, $4 \times 4 = 16$; 16 may be divided by 2, by 4, by 8, by 16; $16 = 4 \times 4$, or 2×8 , or 1×16 ; the factors of 16 are 2 and 8, or 4 and 4, or 2 and 2 and 2 and 2.

In a long division example there are two traditional

positions which the quotient may occupy. It may be placed at the right of the dividend; e.g.:—

$$\begin{array}{r} 27)476(17 \\ 27 \\ \hline 206 \\ 189 \\ \hline \end{array}$$

It may be placed over the dividend; e.g.:—

$$\begin{array}{r} 17 \\ 27)476 \\ 27 \\ \hline 206 \\ 189 \\ \hline \end{array}$$

The proper location of the decimal point in a quotient may be fixed in the three following ways, illustrated by the division of 72.50 by 3.14:—

$$(a) \ 314.\overline{)7250.} \quad (b) \ 3.14\overline{)72.50} \quad (c) \ 3.14\overline{)72.50} \Lambda$$

In (a) both divisor and dividend are multiplied by 100 in order to make the divisor a whole number. In (b) this multiplication is implied, and in (c) it is indicated by the insertion of a caret.

It would seem to be wise to teach the method in which there is least liability to error. The method of placing the quotient above, and of fixing at once the quotient decimal point appears to give the best results. Whether the multiplication is actually done as in (a), or only implied or indicated as in (b) and (c), is not material. It is important, however, that the figures of the quotient be properly placed in relation to the figures of the dividend, the first of the quotient being

exactly over the last figure of the group in the dividend that is used as a trial dividend; e.g.:—

$$\begin{array}{r} 2 \\ 3.14 \overline{) 72.50} \end{array}$$

As an introduction to division of decimals pupils should be led to see, by proving it to be true in a number of simple examples, that the divisor and dividend may be multiplied by any (the same) number without affecting the relation or quotient. Thus:—

$$\begin{array}{r} 2)6 \\ \underline{3} \end{array} \qquad \begin{array}{r} 4)12 \\ \underline{3} \end{array} \qquad 9 \div 3 = 3: \qquad 18 \div 6 = 3.$$

There are two types of problems solved by the process of division that may be illustrated as follows:—

Type 1. “A man sold land for \$15.00 per acre, receiving \$750.00 for it. How many acres did he sell?”

Type 2. “A man sold 50 acres of land for \$750.00. What was the price per acre?”

Formerly it was the practice to think through the problem, determine the name of the answer, and perform the division as if it were a pure abstract computation. For instance, in Type 1 the problem calls for “acres.” The problem evidently involves the division process. It may, therefore, be stated as follows:—

$$\begin{array}{r} 50 \\ 15 \overline) 750 \end{array} \qquad \text{Answer} — 50 \text{ acres.}$$

In Type 2 the problem calls for “price per acre.” Having determined that this is to be the answer, the calculation may again be performed without reference to the names in the problem; as —

$$\begin{array}{r}
 15 \\
 50) \overline{750} \\
 50 \\
 \hline
 250 \\
 250
 \end{array}$$

Answer — \$15 price per acre.

This abstract way of performing problems is the business way.

It is now, however, the common school practice to carry the logical thinking through the calculation process. Problems like Type 1 are performed thus: —

$$\begin{array}{r}
 50 \text{ times} \\
 \$15) \overline{\$750} \\
 75 \\
 \hline
 \end{array}$$

Answer — 50 acres.

Problems like Type 2 are performed thus: —

$$\begin{array}{r}
 \$15 \\
 50) \overline{\$750} \\
 50 \\
 \hline
 250 \\
 250
 \end{array}$$

Or $\frac{1}{50}$ of \$750 = \$15. Answer — \$15.

It is readily seen that problems like Type 2 are *logically* problems calling for the division of the dividend into parts. From this logical standpoint therefore this type of problem is called a “partition” problem, although so far as the mathematical division is concerned it is no different from the calculation involved in problems of Type 1.

It is very essential that teachers understand clearly the logical difference between these two types of problems. It is essential that the children be trained in thinking through all problems to determine what kind

of answer they are to have and how they are to arrive at the answer, but teachers should not confuse them by the term *partition*.

Problems in denominate numbers, reducing from lower to higher denominations, fall under Type 1.

But skill in computation consists not only in knowing thoroughly how to add, subtract, multiply, and divide quickly and accurately, it implies also ability to take advantage of number relations so that the work may be done economically. Such economy is also productive of greater accuracy. This ability is gained only through training.

This training begins in the fourth grade when pupils are shown how to *see* the sum in a group of numbers and to *see* the difference between numbers without calling each number by name. Other helpful relations have been referred to in the preceding pages, but they may be still further illustrated by the use of a simple problem.

Problem — “A woman bought cloth at $12\frac{1}{2}\text{¢}$ per yard. How much will she pay for 20 yards?”

Evidently 20 yards will cost 20 times $12\frac{1}{2}\text{¢}$. At this point the pupil should be taught to pause, and determine the best way to make the calculation. He has three possible ways of proceeding. He may multiply $12\frac{1}{2}\text{¢}$ by 20 in the long way, but this will involve him in unnecessary “figuring” and some difficulty. He may think of $12\frac{1}{2}\text{¢}$ as \$.125 and multiply that first by 10

(moving the decimal point one place to the right, making \$1.25) and then by 2. Or he may think of $12\frac{1}{2}\text{¢}$ as one-eighth of a dollar. Eight yards would then cost one dollar, and twenty yards would cost two and four-eighths or two and one-half times one dollar.

By the time pupils reach the eighth grade they should have such familiarity with the various possible ways of reaching a given result, and such practice in judging the better way under different conditions that their mathematical sense will lead them to select the economical one in all their calculations.

It should be emphasized that no encouragement is here given to train "lightning calculators." Such specialized training as that term implies, has no place in school. The purpose is so to teach elementary arithmetic that the pupils may grow in power to understand and interpret the problems that belong properly to the elementary field of arithmetic, and that they may have such a command of number combinations and of number relations that they may with accuracy, readiness, and economy of labor, perform the processes necessary for the solution of the common problems of everyday life and of ordinary business.

To accomplish this result it is necessary to begin the training in the lower grades. The first methods taught will doubtless be the long ones, but these should be replaced by the shorter ones before they become fixed as habits of work. To habituate the mind to the primary grade methods is to fix its thinking on a low plane,

and this is no more desirable in mathematics than in reading, penmanship, or in any other subject.

Pupils should, moreover, employ this kind of thinking and use this kind of economy in written as well as in oral work. Thoughtful teachers of arithmetic are now encouraging pupils to do their written work with as few figures as possible, giving special credit for this kind of skill, and at times giving no credit for problems performed by needlessly long processes.

Children in school rely too much on the pencil. What can be done mentally, should not be done with the pencil. In mental and oral exercises the pencil may often be used to record data and answers, but in written exercises the pencil should not take the place of the mind.

The habit of "checking" work as it progresses must be formed if one is to become skillful in mathematics. This habit also should be started and fixed in the early grades. "Checking" consists in repeating one process mentally, before the next is begun. In adding, the calculation should be repeated in the reverse order. In subtracting, the remainder and subtrahend may be added. The repetition should be made after each operation, rather than after the entire problem has been solved. This is the business custom.

Skill in application

But there is yet a third phase of this subject, mathematical skill. A pupil may be fairly capable in under-

standing or interpreting a book problem; he may be "good at figures," and yet he may be quite at sea when he is confronted by a real, concrete situation in which he must apply his mathematics. To put the matter more specifically, a child may know the table of long measure, and be able to "work" book problems, but be unable to find correctly the measurements of a board. A child may know the table of liquid measure, but be unable to determine the cost of a half-pint of cream from the price of one quart.

In other words, there is a wide gulf between the mathematics of books and the mathematics of things. This gulf has been recognized in almost every other subject except mathematics, and in almost every field of education except the elementary field. In medical education there is the lecture and textbook, *and* hospital practice; in legal education there is the lecture and textbook, *and* moot courts (dramatized court proceedings); in normal school education there is the lecture, textbook and conference, *and* practice teaching: in scientific education there is again the lecture and textbook, *and* the laboratory and shop experience. Elementary mathematics has its sole value in its applications, and the various common applications must be taught in school along with the book, or pupils will continue to leave school mathematically unskilled because of their one-sided mathematical training.

Unquestionably textbooks on elementary mathematics have been much improved in recent years.

Material for problems, and many problems themselves, have been drawn from modern business life, and these give a much better preparation for actual application than do the material and problems of ancient business. But when this is conceded, it yet remains true that modern business terms and data are still remote, foreign, and abstract to the child who has had no acquaintance with the business from which they happen to be drawn. Data drawn from modern factory and city life are as abstract to the farmer boy as are the data drawn from other centuries. For the city boy the mathematics of the farm is equally unreal. Book mathematics is concrete only in proportion as the mathematical foundations have been laid in concrete experience and as there is adequate opportunity for concrete, real application.

Moreover, a teacher should feel free to omit problems and topics from a textbook and to supplement it. The textbook may be expected to furnish a large part of the work required, but no book can supply the problems suited to the local conditions of all school districts.

There are likely to be progressive changes in the teaching of this subject until in all grades, not simply in the kindergarten and primary grades, there are appropriate activities in which material for real, concrete problems may be found. Some advance in this direction is noticeable. A larger use is being made of dramatized "occupations" and games in the lower

grades. In the upper grades industrial or manual work of various kinds for boys and girls is being more closely studied for its mathematical content. A first-hand study of the life of the community by the pupils is revealing real, concrete material for school mathematics.

The following illustrate the kind of problems that pupils may formulate after such a study as is here referred to.

I have a picture 20 inches long and 15 inches wide that I wish to frame. The frame is to overlap the picture $\frac{1}{2}$ inch. I have decided to use $2\frac{1}{2}$ inch stock. (a) Draw a diagram to illustrate the problem. (b) How much stock must I buy? (c) How much will the stock cost at 5¢ a foot? (d) How much will the glass cost?

I have visited the dairy farm in my neighborhood. I find that 15 cows were milked every day in April. The cows produced 360 pounds of milk per day. (a) How many pounds were produced in April? (b) Milk is paid for at the rate of 25¢ for each pound of butter fat it contains. This milk contains 3.5 per cent butter fat. How much money did the farmer receive in April? (c) What was the average income on each cow?

If concrete mathematics cannot be found in a book, but only in real things, the book can be only a guide and a reference help. It is evident that a new attitude must be taken toward the textbook, for while it may contain suggestions as to methods and illustrate types of problems, the reservoir which holds the material for real mathematical problems is the life of the school and the life of the community; and this reservoir must be drawn upon *by the children themselves* in all grades. It is not enough that the teacher do this. The pupils

must have the personal experience of gathering the data and seeing the mathematical situations in which the problems are found.

INDUCTIVE TEACHING

In the foregoing discussion of the field and purpose of elementary mathematics consideration has been given incidentally to teaching and learning methods. There are several other matters not there referred to that deserve the teacher's thoughtful attention. Not the least important of these relates to the way in which a teacher takes up with the class a new subject.

There are few teachers to-day who do not realize the educational necessity of building new knowledge on the old. But the cementing of the one to the other is not always skillfully done, and for this reason unexpected cracks sometimes develop in the structure. The proper use of the inductive teaching lesson by all teachers, beginning with the kindergarten, would result in better mathematical structures.

In general the process of such a lesson is as follows:—

1. Show the reason or give a motive for teaching the new fact or process.
2. Begin with the fact, process, or situation that the pupils know.
3. Have them use these known facts or processes in a variety of ways.
4. Introduce the new fact or process in its simplest form.
5. Have pupils apply the new principle in objective ways, if possible.
6. Formulate a general statement.
7. Make numerous applications in oral and written exercises.

Independent work upon a new process should not be assigned until, by class exercises with the teacher, the new point has been made reasonably clear.

Illustrations and objects should be used, but only in so far as they are needed to establish the foundations of thinking in experience and in real things. Their use beyond this will tend to confuse the pupil's mind and distract his attention from the real purpose of the lesson.

A simple illustration of this kind of lesson may be taken from the first half of the third grade, when pupils are taught to add one-figure numbers to two-figure numbers. The teacher will first arouse the pupils' curiosity by remarking, perhaps, that he was obliged recently to add ninety-five cents and forty-eight cents, and he wondered if his pupils could do it. He puts this example on the board in some place where it can remain, with possibly the date, so that later the pupils can realize how long it took them to learn how to perform it. Then the teacher may say, "Let us begin with examples we know how to do," at the same time writing on the board a few simple examples in addition of one-figure numbers like the following: —

$$\begin{array}{ccccccc} 3 & 3 & 3 & 3 & 3 & 3 & 3 \\ \underline{1} & \underline{2} & \underline{3} & \underline{4} & \underline{6} & \underline{7} & \underline{9} \end{array}$$

Pupils are familiar with these and will give the sums, which the teacher will write down. The teacher is now sure that the class is well grounded up to this point.

Underneath these sums she may start a new series, beginning with

$$\begin{array}{r} 13 \\ - 1 \\ \hline \end{array}$$

This sum is already known, and can be given orally before it is written. Pupils will be able quickly to complete the series,

$$\begin{array}{r} 13 & 13 \\ - 2 & - 3 \\ \hline \end{array}$$

etc., up to

$$\begin{array}{r} 13 \\ - 7 \\ \hline \end{array}$$

when the first real difficulty may be met. Pupils know that thirteen and seven make twenty. They need to be shown how the sum of seven and three may be added first, the zero being put under them, and how the one ten is added to the ten of the thirteen. Proceed then to

$$\begin{array}{r} 13 & 13 \\ - 8 & - 9 \\ \hline \end{array}$$

Now start another series,

$$\begin{array}{r} 23 & 23 & 23 \\ - 1 & - 2 & - 3 \\ \hline \end{array}$$

etc. This will doubtless be enough for one lesson. At the next lesson a quick review orally and in writing may be given of the first lesson, in which the teacher will discover where to begin her teaching — it may be with

$$\begin{array}{r} 13 \\ - 8 \\ \hline \end{array}$$

The class should be allowed to move along as rapidly as it can intelligently; for, having caught the idea, having glimpsed the new opening in the road, too much talk and explanation by the teacher may be confusing. Pupils who need additional instruction may receive it individually or in small groups.

The lesson, or series of lessons, just illustrated, does not call for the use of objects. Where these are needed, as in the early stages of number development, in teaching denominative numbers, and addition, subtraction, multiplication, and division of fractions, a longer time would be required for establishing the desired connection between the past varied uses of the old knowledge and the new.

MENTAL AND ORAL LESSONS

Another exercise that deserves consideration is the mental and oral lesson. This has the same fundamental educational value in arithmetic that it has in composition. It is the means by which what is superficially known becomes familiar. It is the economical way of discovering and strengthening weak places. If possible this should be a daily exercise. One third of the time of a recitation is not too much to assign to it. In five minutes five problems and abstract examples, two of one and three of the other, may be given and solved. A problem will be dictated once to the class; it will be solved mentally and the answer recorded on a slip of paper prepared in advance. This will be repeated

for each of the five questions. Answer slips may be exchanged. The teacher reads the correct answers, or writes them on the blackboard, each pupil indicating wrong answers with a cross. Answer slips are returned and pupils making mistakes solve the problems orally. Problems not understood may be taken up for discussion in the latter part of the recitation, or the next mental arithmetic period may be given to the treatment of this one difficulty.

In another kind of mental exercise each pupil indicates on a slip of paper the processes to be used in solving a series of dictated problems. For example, if the first problem is to be solved by multiplication, the pupil writes — 1. m. (multiplication). If the second requires division, he writes — 2. d. (division), etc. This exercise centers on process apart from calculation. In five minutes ten to twelve problems may be thus treated.

These problems, whether dictated by the teacher from her own supply or taken from the textbook, should, of course, be simpler in statement and in the required calculations than problems assigned for written work. They should be planned in advance to emphasize the points that need review and drill. They should be of two kinds — (a) abstract, leading to skill in calculation; (b) concrete, leading to skill in interpretation, and in using calculation in applied problems. These applied problems should often correlate with local interests, and with other school work.

DIAGRAMS AND GRAPHS

A third matter, and one that is often slighted in teaching mathematics, is the diagram. Beginning in the early grades, pupils should be taught how to illustrate their problems in mensuration. From the first, they may understand that the diagram should represent correctly the facts of the problem. If it does not so represent them, it is as bad a mistake as a wrong answer to the problem, and this is as true of sketch diagrams, i.e., those drawn without the ruler, as of drawings made to scale. If, for instance, the problem concerns a board four feet long and two feet wide, the diagram should not be a square, or a figure three times as long as it is wide. It should be twice as long as it is wide. Again, if a field is to be represented 20 rods long and 15 rods wide, the pupil should be led to see that the relation between the length and the width is the same as the relation between 4 and 3. The diagram, therefore, should show four units of length and three of width, each unit representing in this problem 5 rods.

The graph is another geometric device for representing mathematical facts. Its use is becoming very common. In the daily newspapers, and in many magazines and books, comparisons of quantitative facts are shown by diagrams and by pictures of bales of cotton, barrels of flour, etc. In the elementary schools the pupils should be taught how to read them, and how to make them when this kind of representation would be of use

in illustrating their work. Very early in the grades the daily temperatures may be recorded graphically. Some teachers have found it very stimulating to have each pupil keep his own daily or weekly record in spelling, or in some other subject, graphically. The class averages in a study or in attendance may be kept graphically on the board or bulletin.

MATHEMATICAL QUALITY

In all work in mathematics pupils should maintain high standards of quality. There are several kinds to be thought of, the first and most important of which is accuracy. Mathematics is an exact science, different in this particular from composition, history, geography, etc. There is no useful place anywhere in the world for seventy or eighty per cent correct mathematics. In school such a low standard may be acceptable in the process of learning, but when a subject is considered learned, ninety per cent and above should be expected. If a pupil cannot do the work assigned, in subjects which he is supposed to have mastered, on a ninety per cent correct basis, one of three causes may be found — either the work is not understood, or it is too difficult, or he is careless. Each of these causes should receive the teacher's careful thought; for if the work is well adapted to the pupils, they will be willing to strive for the high standards set by his ambition.

Next in importance to accuracy is the quality of neatness, including good figures, pleasing arrangement

of work, and clean papers. Lines should be parallel with the edges of the paper, and they should be drawn carefully and with precision, as a bookkeeper draws his lines. No unnecessary lines should be used. Blackboard work should be as carefully and neatly done as work on paper.

After accuracy and neatness comes speed. This, however, should never be obtained at the expense of the other two qualities. But it is evident that a pupil who hesitates, when he is asked the sum of eight and nine, either does not really know the sum, or he is embarrassed. Many exercises should be given in which pupils work in familiar fields to develop mathematical facility.

INDIVIDUALITY OF PUPILS

In aiming to secure good quality, however, the teacher will not allow the subject to take precedence in his mind over the pupils. A true teacher is never merely teaching a subject. He is always assisting a human being by means of a subject to grow and adapt himself to his surroundings. It is then, after all, the pupils' interest, success, growth, improvement that the teacher has in mind when he sets up high standards and puts into operation stimulating incentives.

If, however, these produce failure and discouragement in any individual, the standards and incentives are surely not accomplishing the most useful results. Individuals and classes differ in their mathematical

aptitude. They come to a teacher with different kinds of preparation. If instruction is to be given from the standpoint of the pupils, it must first be discovered what each individual knows and also how he knows it. Therefore, standards should be adjusted to each class and to each individual. For the more able pupils special advanced problems should be assigned or offered as optional work for which special credit is given. For the less able, special easier work should be arranged to secure the needed review and drill.

All defects cannot be made up at once, but they should be tabulated and definite plans should be made to remedy them. The more fundamental these defects, the more important it is to remove them. It may be that a pupil has reached the eighth grade without learning to make good figures or to make them in a proper way. The arrangement of work may be unbusinesslike. It may be that a pupil has not learned to illustrate his work with properly constructed diagrams, or he may not have learned to calculate economically. These and other individual and class defects should be sought out, especially at the beginning of each term, and thoughtful effort should be made to meet each difficulty. Moreover, the quantity of work planned should be measured by these same individual and class differences.

DRILL

After a mathematical fact has been taught and pupils have shown that they understand it, they must use it again and again until they are its masters. For this purpose "drills" have been devised. Now in drilling a hole in a rock the workman does not hold the drill immovable. If he does, repeated hammering binds it, and the desired impression on the stone does not result. But he keeps turning the drill, so that at every stroke of the hammer the stone is affected in a slightly different spot. By thus constantly turning the drill, the hole is deepened. The teacher should know that the interest that he and his pupils take in the drill exercises, and their mental effect, depend upon this same variety of impact. The fact must be driven home by quick, sharp, and frequent blows, but it ought not to become "lodged" because of sameness or of monotony in the exercise. A large variety of devices is needed.

Many games have been planned for use in the primary grades, that are good so long as the arithmetic is the prominent feature. The game should be the steam to make the arithmetic go. Charts with numbers arranged in columns and lines, either upon the blackboard or on large sheets of paper, "flash" cards devised for drill in addition, subtraction, multiplication, and division, aliquot parts and their per cent equivalents are also very useful in all grades.

Moreover, to be effective, the purpose of a particular drill exercise must be determined before it is given, and with a view to the specific needs of a particular group of pupils. For instance, it may be that there is a class or individual weakness in interpreting problems. In this case, an abundance of practice should be given in each phase of interpretation, without any thought of the calculations. At one time pupils may determine only *what is called for* in a large number of problems. At another time they may state only *what the problem gives as data* to be used in working out the desired result.

In drilling on "tables" and other elements of abstract computations, children should find the combinations that they need to drill upon, as contrasted with those on which they do not fail. Moreover, the stress of drill should be laid upon the difficult parts. For instance, a teacher is drilling a class in subtraction. It is found that some of the pupils have difficulty with the "borrowing" or taking from a higher place figure. An example similar to the one that follows may be used:—

$$\begin{array}{r} 7 \ 5 \ 0 \ 8 \ 4 \ 6 \ 9 \ 2 \\ 3 \ 4 \ 2 \ 9 \ 6 \ 8 \ 9 \ 3 \\ \hline \end{array}$$

Let the pupil who has trouble with the "borrowing" do *all* the "borrowing" while another pupil does the subtracting. The first pupil says "12," the other, subtracting, says "9." The first one "18," the other "9." The first one "15," the other "7." By this division

of labor in the exercise each pupil receives the drill that he particularly needs.

The more the teacher can make use of the ingenuity of the pupils in planning these exercises, the more he can subordinate himself and make them the leaders, the more the exercises will appeal to them. They may select the points to be emphasized in the drill, they may suggest a new kind of game, they may do the pointing at the board, or hold the "flash" cards, or keep the record of failures and successes.

TESTS AND RATINGS

Success in teaching any subject, and particularly arithmetic, depends partly upon the ability of the teacher to discover what the child's previous preparation for a new topic has been and whether lessons that have been taught have been understood and retained. Every successful teacher is constantly testing, at times by means of written exercises, but more frequently by careful questioning, day by day, to find any existing weakness. This careful testing will enable the teacher to give individuals just the help that each needs, and to plan the work of the following day so that too many difficulties shall not be presented at one time. It will also prevent the equally harmful practice of making assignments which, being too easy, do not call for effort by the pupils.

Failures in work should be carefully studied to discover the particular point at which the failure occurred.

The following incident will illustrate the necessity of doing this:—

Problem: "Of a flock of sheep, 420 were sold. This was 35% of the whole number. How many were left?"

Nineteen pupils in a certain class failed on this problem. Of this number, twelve took 420 as the total number of sheep; seven said: "65% of the number sold = 420."

It is evident that it would be a waste of time to assign additional problems of this type until there had been further instruction and a great deal of oral drill upon the *interpretation* of this type of problem, and upon the relation of the term "per cent" to the equivalent part of the whole which is involved in the problem. The pupils who have failed at this point ought to be led to see that they have said that 65 per cent of all the sheep = 420 sheep, and that this statement contradicts the statement in the problem.

This particular class consisted of thirty-five pupils. Only half failed on this problem and, therefore, only half needed additional help and drill. For the purpose of teaching this point, it would have been profitable to divide the class into two sections. While special instruction and drill were being given to one section, the other could be at work on more difficult problems.

It is important that a variety of tests, oral and written, be given *at the beginning of the term* on all the essential processes previously studied, so that the teacher may begin the term's work intelligently. When

a weakness has been discovered, the teacher should concentrate effort at this point, for a common cause of mathematical failure is the miscellaneous character of problems dealt with at one time. It happens not infrequently that a class does not dwell on problems relating to one situation long enough to learn the mathematics of that situation.

Another kind of test, not intended for use in determining promotion, has been successfully worked out in recent years. It is called "standard" or "standardized tests." Dr. S. A. Courtis, who devised them, states, "The Courtis Standard Tests are not 'examinations,' but scientific measures of fundamental abilities of arithmetic involved in simple work with whole numbers. Their purpose is to show how efficiently the work of the entire school is conducted." They are proving to be very useful in revealing to teachers the fundamental weaknesses of their pupils in arithmetic.

Tests, especially of the more formal kind, should not call for the most difficult work that pupils might be expected to do, neither should they form the exclusive or most important consideration in determining standing or promotion.

The mark given a test or a recitation or the work of a week, a month, or a term, should be considered not a rating indicating absolute value, nor should it be an end in itself, but rather an *indication* of mathematical proficiency or need. As it has been noted before, pupils should realize that in arithmetic accuracy is

essential. Business cannot prosper on inaccurate arithmetic. Ninety per cent may therefore properly become the standard for daily work, although this may be too high as a requirement for promotion.

HOME WORK

A word of caution regarding home work may not be out of place here. For the most part school tasks should be done in school. Five hours a day of mental work is enough for growing children. Little home work should be assigned before the seventh grade. Unwise parents may sometimes demand home lessons, and occasionally there is an over age or a plodding pupil who ought to have them; but in general school work will be better done and will be more profitable if it is done in school. Arithmetic is particularly ill adapted for home study. The help received at home often gives an unfair advantage, and in some instances cripples the pupil by being too generous. Occasionally the teacher at home may be superior to the teacher at school, but this cannot be assumed to be generally true, as the following incident indicates. One day a little girl took home her arithmetic lesson to learn. As usual, her mother helped her. The next day, on the child's return from school, her mother said, "Did you have a successful day at school, Dorothy?"

"Yes, mamma," was the reply.

"Were the problems all right?" continued the mother.

"Oh, the problems," said Dorothy. "No, none of them were right, but don't feel badly, mamma, none of the other mothers had them right either."

If, then, home work in arithmetic is assigned at all, it should consist chiefly in performing the mechanical calculations involved after the "what to do" has been discussed in the classroom. When pupils are assigned home work that they do not understand, they will waste a great deal of time, and very likely develop habits of mental dawdling.

Geometry

All mensuration is geometry. As much geometry, therefore, should be taught in the elementary schools as is needed for the proper construction and reading of diagrams in mensuration and of working drawings in the shop. The working drawings are best made on the drawing board with the drawing tools that go with it. The proper use of these tools should be taught.

It is probable that, in time, there will be an extension of this work in the form of a course in geometrical construction of a useful nature adapted to the seventh and eighth grades. This course will doubtless include instruction in the use of the simple tools of the draughtsman, referred to above, — the drawing board, the T-square, the triangles, and the compass. No course has yet been planned that meets general acceptance, although a promising beginning has been made in some textbooks.

Algebra

In schools that are large enough to have two eighth grade classes, it sometimes happens that pupils may be found strong in arithmetic, who would be profited by beginning the study of algebra. Such pupils may complete half a year of high school algebra during the eighth year and, at the same time, continue the study of arithmetic, giving it, however, less time than the other class gives. But for most pupils, it is best to continue without interruption the study of arithmetic.

All pupils should, however, become familiar with the use of letters as symbols of number and quantity, and should learn to solve problems by the equation method. In fact, the use of the algebraic equation in problems in percentage, including interest; in proportion, if this subject is taken; and in many other cases may well be given considerable emphasis, for it often simplifies the solution.

In algebra, as in geometry, there is a probability that in the future there will be a somewhat more extended study than is here suggested. The practical uses of the algebraic formula would seem to warrant such development, particularly in some phases of general science and in boys' industrial studies and activities. Some advance has been made in formulating a general course for the seventh and eighth grades, but it seems at present undesirable to do more than call attention to this movement.

Regarding Courses of Study

It was not the original purpose to include courses of study in this book. It is recognized that the best course of study for any locality is the one that is made by the teachers and supervisors of the schools for which the proposed course is to be a guide. But the course in arithmetic that follows has had wide approval and may be of use to some as a guide in making their local course. It is well, however, to be aware of the matters on which there is no general agreement.

For instance, there are some who believe that formal instruction in arithmetic should be delayed as long as possible, until the third or fourth year of school. Others believe that this formal instruction should begin at once in the first year. There do not appear to be sufficient data to support or to discredit either opinion. The plan suggested here follows a middle course. It is believed that this plan is in accordance with the prevailing practice in this country.

There are those who prefer to place the objective work in the fundamental processes with fractions in the fourth year rather than in the fifth. While it is doubtless true that in general, in this country, this work is assigned to the fifth grade, the character of the particular class may properly determine this matter.

The work outlined for the seventh and eighth grades is new for many schools. Not many textbooks at present treat adequately the practical applications of

elementary mathematics, and textbooks at best can be but guides. All schools have not introduced the shop, farm, and domestic activities in such a way as to make them immediately available for the study of their mathematical content. Therefore, while making the transition from the study of less useful arithmetic to that of the more useful, applied and community arithmetic, it may not be feasible to discard at once the work with which teachers are familiar. However, progress will be rapid if supervisors and teachers believe that the transition ought to be made and set themselves to the task of making it.

There may be a feeling on the part of some that too much of the ordinary school arithmetic is here eliminated. The recognition of the principle of elimination — namely, that the schools should teach that arithmetic only that is useful outside of school — is much more important than the elimination or retention of any particular topic. If the principle is accepted, the practice in the schools will be governed more and more by it.

ELEMENTARY MATHEMATICS BY GRADES

First grade (first half)

The study of arithmetic during this year should be somewhat informal, and the kind should be determined by the needs of the children. These cannot be set down definitely.

Children who have not had the advantage of kindergarten training or of a favorable home environment, come to school at the age of five or six years with the knowledge of a few

number names which they apply indefinitely to groups of things; but with a very limited consciousness or conception of the mathematical significance of these names.

They may not be able to apply these names correctly. They may call a group of seven objects, five; a group of ten objects, seven, etc.

They may use the term "four" when they mean the fourth one; "five" when they mean the fifth one, etc.

Without special lessons these actual mathematical deficiencies may be made good. The seat work, reading lesson, and the general life of the school will provide the opportunities for the instruction that is needed.

First grade (second half)

The instruction of the first half year should be continued and carried to

1. Counting by twos and tens to 100.
2. Reading numbers through 100.
3. Making figures through 10.
4. Using one-half, one-third, one-fourth, as they may need these terms in connection with their various kinds of class and seat work.

No regular period need be set aside for instruction; but an occasional period should be given to it, if the results indicated cannot be secured otherwise.

Second grade (first half)

Pupils may be given a textbook at this time, or it may be withheld for another half-year or even until the beginning of the third grade, according to the judgment of those in authority. The teacher should have two or three good primary arithmetics for her own use.

Whether the pupils have books or do not have them, the spirit and method of instruction will be the same. Instruction should be more systematic than in the first grade and a special period should be set aside for it.

The principal work of the half-year is the teaching of the

twenty-five primary number facts of addition whose sum does not exceed ten. These twenty-five sums should be taught by counting various kinds of objects and by the use of diagrams (dots, lines, figures, pictures, etc., on the blackboard).

Objects are used so that the children may find *for themselves* the sums and may *see* the results that come from combining the groups of 2 and 3, 4 and 3, etc.

There should be some variety in the objects to maintain interest and to avoid associating the number ideas exclusively with one set of objects, but the variety should not be so great as to cause mental confusion.

After the objects have fulfilled their purpose, which is to make clear a fact or a process, their use should be discontinued. It is not always easy to determine when to do this, as it is as much an individual as a class matter. If a pupil can readily and accurately arrange objects, as 5 blocks and 3 blocks, and by counting determine the sum, he is ready, turning his back upon the blocks, to make the oral statement, 5 and 3 are 8; to make the statement with figures, $5 + 3 = 8$; to read these numbers and to memorize the combination.

While learning that 5 blocks and 3 blocks are 8 blocks, it is a simple matter to learn that 3 blocks and 5 blocks are 8 blocks, that 8 blocks less 5 blocks are 3 blocks, and that 8 blocks less 3 blocks are 5 blocks.

After several combinations have been learned, it remains to fix them in mind. This can be done best not by returning constantly to objects, or by mere repetition, but by *using* the combinations in ways interesting to the children. Much thought has been given to devising occupations and games in which the number relations may be expressed repeatedly. Sight work must precede pure mental work in all drills.

Pupils may "play store" in a variety of ways. It is not necessary to have money or imitation money. Children use toothpicks, pebbles, nails, etc., for money in their play out of school. They can use the same things for money in school. Often in play out of school one marble is made equivalent to the value of two, three, five, or more marbles. This same kind of imagination may be utilized in school.

“Playing dominoes” is an interesting game. Children may make their own dominoes for use at their seats. The teacher may have a similar set of large cardboard dominoes for class use. Of course the number of dots on the dominoes should be governed by the numbers which the teacher wishes to emphasize.

“Playing soldiers” can be used in a variety of ways. This game and others of a similar nature give opportunities for action. They should be played in a lively manner. “Playing housekeeper,” also, has many possibilities for number experience.

“Spinning the arrow” is played with a large circle of cardboard. Different numbers are placed at regular intervals around the circumference. An arrow is fastened loosely in the center. Each child spins the arrow and announces the number to which it points and adds or subtracts a given number. Such drills should not take the place of those with figures written in columns.

These games and dramatized occupations may be of real value if the play does not crowd out the mathematics. The play factor should be kept simple and subordinate and should involve a relatively large amount of serious mathematical drill. It is questionable whether a teacher is justified in infusing into the recreation period an element of arithmetic or of any other study. The recreation periods should be periods of mental relaxation.

Beyond the making of figures and pictures of objects, no written work should be required.

In addition to learning the twenty-five primary combinations mentioned above, the following subjects should be given careful attention:—

1. Reading numbers and counting by twos, fives, and tens to 100 beginning with zero.
2. Writing figures and spelling the names of numbers through 20.
3. Roman numerals as they are met with in books.
4. Halves and thirds of numbers, giving exact divisions through products that are learned.
5. Measures used: inch and foot. Use the ruler and teach

the parts as used. It is desirable to have the pupils in this grade use a ruler divided into inches, halves and quarters only.

6. Dozen and half-dozen.

Second grade (second half)

If the children have come from another teacher, or a summer vacation has intervened, time should be taken to review the work of the previous grades before beginning the new work.

What has been noted regarding use of objects, games, and dramatized occupations applies to this grade also.

There are forty-five so-called primary number facts of addition, that is, forty-five different groups of two numbers each whose sum is 18 or less. Twenty-five of these primary addition facts, those representing sums less than 10, were learned in the first half of this grade. It is believed that the addition facts between 10 and 18 are better learned by calculation than by objects. Pupils should be led to see that 13 is 3 and 10, that 14 is 4 and 10, etc.; 11 and 12 need to be learned by themselves. Realizing that 9 is one less than 10, pupils will readily see that 9 and 4 must be one less than 10 and 4; that 9 and 5 is one less than 10 and 5, etc. Numbers beyond 10 or 12 require too many objects for easy manipulation, and the groups of objects are too large for mental imaging.

Pupils in this grade should begin to recognize groups of numbers as *wholes*, as they recognize groups of letters (words) as wholes.

Expressions like

$$\begin{array}{ccc} 2 & 4 & 7 \\ \underline{1} & \underline{2} & \underline{3} \end{array} \text{ etc.,}$$

should be thought at once as equaling 3, 6, and 10, rather than as 2 and 1 are 3, etc.

The best test of a pupil's knowledge of his addition and subtraction facts is ability to *see* these facts without conscious calculation, just as words are recognized without conscious spelling.

Much waste of effort will be avoided in teaching the forty-five primary addition facts if they are separated into groups according to their difficulty. It should be made evident to the children that all combinations of 1 and some other number are so easy that they need no attention. It is a profitable exercise for the pupils to decide for themselves which are these "difficult" groups. Those that are troublesome should receive attention until they are as familiar as the "easy" groups.

Drill by the use of games, dramatized occupations, various kinds of mechanical devices, such as diagrams, "flash cards," etc., etc., where the figures are written in column form.

The following subjects also should receive attention:—

1. Adding and subtracting by tens and fives to 100, beginning with zero.
2. Reading, writing, and spelling names of numbers through 100.
3. Roman numerals as they are met with in books and in learning to tell the time of day.
4. Addition of single columns of two to four one-figure numbers.
5. Multiplication and division tables of 2, and, if the class is able, the table of 3.
6. Halves, thirds, fourths of numbers through 20, and of single objects.
7. The units of measures, one inch, one square inch, pint. Use also foot, yard, square foot, and quart.
8. Coins up to one dollar.

The pupils should be given much experience in using real measures. They should begin also to exercise their judgment in estimating lengths and surfaces. The ruler divided into inches, half inches, and quarter inches is desirable for this grade.

Third grade (first half)

Pupils should have a textbook.

Review thoroughly the forty-five primary addition facts, giving special drill upon those that are troublesome. All

these facts should be known instantly, with the corresponding differences; the multiplication and division tables of 2 and 3; the exact halves and thirds of products learned. Give much sight drill.

More written work may be given in this review than was desirable in the second grade, although the greater emphasis should still be on the oral form of expression.

The new work of this half-year is:—

1. Adding one-figure numbers to two-figure numbers orally and in written form. Subtraction examples with the same kind of numbers and taught in connection with addition. Add one-figure numbers in columns of two, three, and four numbers. Add numbers arranged in horizontal lines. Pupils should use readily the terms, sum, difference, and remainder. Addition and subtraction by "endings," e.g., $3 + 2 = 5$; $13 + 2 = 15$; $6 - 3 = 3$; $16 - 3 = 13$, etc.
2. Multiplication tables to 4×10 .
3. Division tables to $40 \div 4$.
4. Multiplication and division by one-figure numbers.
5. Reading and writing numbers through 1,000. Roman numerals through XX. Dollars and cents.
6. Halves, thirds, and fourths of single objects and of numbers which allow of exact division to 40.
7. Use the measures of previous grades.
8. Introduce simple one-step problems, keeping them as near as possible to the children's experience.

The use of the ruler should be carefully taught so that it may be used skillfully, like any other tool, in drawing and cardboard construction work. Pupils may begin drawing to scale.

Time tests for speed and accuracy should be given, but with care so as not to discourage the slower members of the class.

Third grade (second half)

Two or three weeks may be spent profitably in a careful review of the work of the previous half-year. In this review emphasize addition and subtraction by "endings," e.g.,

$9 + 2 = 11$; $19 + 2 = 21$; $29 + 2 = 31$, etc. During the review make a memorandum of the troublesome places and devise interesting exercises for drill. Oral expression should have more attention than written expression.

The new work of this half-year is:—

1. Addition of one-figure numbers and one-figure and two-figure numbers at sight. Subtraction examples with the same kind of numbers. Add columns of one-figure numbers consisting of two, three, four, five, and six numbers. Lead pupils to see the sum of four number columns at a glance without laborious addition.

$$\begin{array}{r} 7 \\ 3 \\ 2 \\ \hline 1 \end{array}$$

This sum may be seen as 13. It is not necessary to add one number at a time. If any pupil has difficulty in seeing the 13 at a glance, he may at least see two groups — the sum of one group being 10 and of the other 3. Have some addition in horizontal lines. Addition and subtraction of United States money orally and in written form.

2. Tables of multiplication and division to 9×10 and $90 \div 9$.
3. Multiplication and division by one-figure numbers. Avoid examples in division involving remainders.
4. Halves, thirds, etc., to ninths of all numbers involved in the tables which will be divisible without a remainder.
5. Reading and writing numbers to 10,000. Roman numerals to L.
6. Use the measures, pints, quarts, gallons; quarts, pecks, bushels; ounces, pounds; inches, feet, yards; square inches, square feet, square yards; dozen, one-half dozen, one-third and one-fourth of a dozen. Teach also the table of minutes, hours, days, months, and years.

Study the relations of the parts of each table one to

another; give much practice in "estimating" lengths, areas, volumes, and weights, so that all terms in the tables may have a definite meaning.

7. Simple one-step problems of a practical sort.
8. Train pupils to a skillful use of the ruler in all work in which it is used. Continue simple drawing to scale.

Use games and dramatized occupations in drills and reviews. Give occasional time tests for accuracy and speed. These tests are for inspiration and should not result in discouragement to faithful pupils who may be a little slow.

Fourth grade (first half)

This grade has little work that can be called new. The pupils are led farther along lines on which they have already traveled. They will meet difficulties, but they will be difficulties involved in using larger numbers, in calculations, and in application.

It is most important that the fourth-grade teacher be familiar with the work that the teachers in previous grades have been trying to do — the quantity, the variety, and the method. It should be recognized that pupils have not learned all that teachers have tried to teach. Many points will need to be taught again and time should be taken to do it.

1. In addition much drill should be given to adding "by endings." The difficulties in addition are largely because a few simple combinations, such as $9 + 7$, $8 + 5$, $8 + 7$, $7 + 4$, $5 + 2$, $5 + 3$, $8 + 3$ are troublesome. The stress of drill should be placed upon these and other points of difficulty. However, the teacher must call out the active, interested effort of the pupils, if the drill is to make an impression. Pupils should become skillful in recognizing at sight sums of groups of two and three figures.

The addition may be extended to numbers of three and four figures each and to six and eight numbers in a column.

Have some work in horizontal addition.

Have pupils fix the habit of checking their addition by adding a second time in the reverse order.

2. In subtraction the work should parallel that in addition. Familiarize the pupils with the business way of making change, i.e., by adding to the price of the article what is needed to complete the amount of money passed to the dealer in payment.
3. In multiplication and division extend previous work to the use of multipliers and divisors of two figures. Tables through 12×12 and $144 \div 12$.

Pupils should use readily the terms multiplier, multiplicand, product, dividend, divisor, quotient.

4. Reading and writing numbers to 1,000,000. Roman numerals to C.
5. Complete the tables of long and square measure by teaching rods and miles. Make sure that pupils have a definite idea of the value of each denomination in the various tables and fix these ideas of values by frequent reviews and drills in which they are used concretely. Use the blackboard, the schoolroom floor, the school yard to illustrate distances and areas. Train pupils to "pace" yards and rods. Have them determine the distance of a mile from the school to some well-known point as a "standard mile." This should be done by actual measurements, using a pedometer, a bicycle with an odometer, or an automobile.

The repetition of tables is of little use, if there is not this consciousness of concrete values.

6. One-step problems and with some classes simple two-step problems. Train pupils to think through problems and to estimate answers before they begin the written solution. Pupils should at times be asked to make problems for the class, using problem material found in the home or school life.
7. In fractions continue the work of previous grades.
8. Continue the use of the ruler and drawing to scale.

Drills and reviews by the use of games and dramatized occupations are desirable in this grade. Keep these simple and have the mathematics prominent. The pupils will sug-

gest new games if they are taken into the confidence of the teacher. A pupil may find it interesting to engage in competition with himself, as a person often does in playing golf or other games. Each may keep his own score card.

Fourth grade (second half)

The work outlined for the first half of this grade should be continued by varied and interesting reviews and drills, and it should be extended as follows:—

1. Addition and subtraction as previously outlined.
2. Multiplication and division by two-figure numbers, carried this year to three-figure numbers.
3. Addition, subtraction, multiplication, and division with United States money.
4. The simple use of fractions, as $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$, $\frac{1}{6}$, $\frac{1}{8}$, when considered as parts of a unit, or of numbers which are divisible without a remainder.
5. The use of the various tables of measure in length, area, volume, bulk, time, weight, founded on a large body of practical, concrete experience with these measures.
6. Reading and writing numbers to 1,000,000.

It is reasonable to expect that at the end of the fourth grade pupils will be fairly accurate and skillful in calculation within the limits of their grade assignment, and that they will show signs of careful training in the interpretation and solution of simple problems.

Fifth grade (first half)

The fifth-grade teacher should study carefully the work of the preceding grades, and he may profitably spend two weeks at the beginning of the term in reviewing the fourth-grade work, re-teaching those parts upon which the pupils are not clear and devising new drills for those parts that need emphasis. It will be found that long division usually requires a good deal of attention before pupils are skillful in it. The review may continue while the new work in fractions is being introduced.

The new work of the fifth grade is the teaching of addition, subtraction, multiplication, and division of fractions — common and decimal. This should be divided about equally between the two halves of the year. The first half of the year common fractions should be taught (addition and subtraction thoroughly, multiplication and division less thoroughly).

Pupils have had much experience with simple fractions, $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$, etc., of single objects, and the equal parts of small numbers. They can add $\frac{1}{2}$ and $\frac{1}{2}$, $\frac{1}{3}$ and $\frac{1}{3}$, etc., and doubtless will have no trouble with a problem requiring that $\frac{1}{3}$ be taken from $\frac{2}{3}$ or from $\frac{3}{3}$. They have had, however, no experience in adding $\frac{1}{2}$ and $\frac{1}{3}$, or, in general, in calculating with fractions not having a common denominator.

1. Teach reduction of fractions to higher and lower terms.
2. Addition and subtraction of fractions should be taught as addition and subtraction of integers were taught in the second grade — objectively. Paper cutting, diagrams of circles, rectangles, and lines should precede the use of figures, and these should be used to illustrate the first problems in which figures are used. Have much oral work.

The use of objects and diagrams should be with small fractions, and objective teaching should not be continued after its purpose has been realized, that is, after pupils see the validity of the operations.

3. The terms, numerator, denominator, common denominator, and least common denominator should be taught. As only those fractions with small denominators (not larger than 16) will be used, all common denominators can be found by inspection. Teach also reduction of improper fractions to mixed numbers, of mixed numbers to improper fractions, and the addition and subtraction of mixed numbers.
4. Teach multiplication of fractions and the use of the "of" when the multiplier is a fraction.
5. Division of fractions.
6. Reading and writing numerals through 100,000,000. Reading and writing common and decimal fractions

(through three places) and mixed numbers. In reading mixed numbers use *and* only between the whole number and the fraction. Read and write Roman numerals through C, also the numerals D and M.

7. Continue drill in addition by "endings" and by groups of numbers. Have pupils find and learn the equal (aliquot) parts of \$1.00 and of 100, and apply these in the solution of problems. Continue practice in the interpretation of problems, in estimating results and in the application of short methods in solving problems. Pupils in this grade should appreciate the importance of *relations of numbers*. They should habitually look for these relations and utilize them in calculations. For example, in the following problem:—"If 5 lb. of butter costs \$1.50 how much will 15 lb. cost?"—pupils should see that 15 is 3 times 5 and therefore that 15 lb. will cost 3 times \$1.50. They should also realize that the easiest way to multiply \$1.50 by 3 is to multiply \$1.00 by 3, adding \$.50 multiplied by 3.
8. Problems in denominate numbers. Two-step problems.
9. Measuring and drawing to scale.

Fifth grade (second half)

Review addition, subtraction, multiplication, and division of common fractions. Have much practice with mixed numbers.

Continue reviews of all subjects taught in previous grades with special attention to training for skill in interpretation of problems, in estimating results, and in calculation.

The work of this year will be much simplified if numbers are kept small and problems are kept simple. Emphasis should be placed on familiarizing pupils with the processes.

1. Teach cancellation. This should be treated as a case of reduction of fractions to lower terms. This reduction is not a process of dividing numerator by denominator or denominator by numerator, but is the process of dividing both numerator and denominator by a common

divisor. Thus $\frac{4}{8}$ is reduced by dividing 4 and 8 by the common divisor 4, with the result $\frac{1}{2}$.

2. Instruction in decimals should be introduced by illustrations with United States money. Teach addition, subtraction, multiplication, and division of decimal fractions, using decimals to three places. In reading mixed numbers use the word *and* only at the decimal point. Keep the work simple. In multiplication limit it to examples that have the decimal point in the multiplier only, and in division to examples having the decimal point in the dividend only.
3. Change common fractions to decimal form. At this point, if it has not been done before, teach that:—
 - (1) A fraction is an expression of a part — (a part of a unit, e.g., $\frac{1}{8}$ of an orange; or of a group of units, $\frac{1}{8}$ of 16 oranges.)
 - (2) A fraction is an expression of division in which the line separating numerator from denominator is the sign of division. Therefore, the numerator may be divided by the denominator and an improper fraction may be reduced to a whole or a mixed number; and a common fraction may be changed to the decimal form. (From this point of view a fraction is the ratio of two magnitudes of the same kind.)
4. Problems relating to the common affairs of life, marketing, traveling, etc., should be made by the pupils.
5. Drawing to scale.

Sixth grade (first half)

Teachers of this grade should not expect pupils at the beginning of the term to be proficient in the work of the preceding grade. Two or three weeks, or even a longer time, should be spent in a careful and systematic review of the work in fractions. The sixth-grade teacher should be familiar with the work of the fifth-grade teacher.

During this review much practice should be given in interpretation of problems, in estimating results, in becoming skillful in economical calculations, in choosing short methods

of solving problems by taking advantage of number relations, using the equal (aliquot) parts of \$1.00 or 100, etc.

Continue drawing to scale.

1. In decimals teach multiplication and division with numbers having the decimal point in both terms of the example, using also the more troublesome numbers, such as those with one or more zeros, etc.
2. Change common fractions to decimals and decimals to common fractions.
3. Teach the reading of decimals to six places, but for common use employ only those of three places or less.
4. The new work of this half-year should consist of simple applications of decimal and common fractions in percentage. The sign $\%$ will be introduced.

Pupils should realize that they are not doing anything new when they multiply a number by .04 or $1\frac{4}{5}\%$. This work should be related to the former work in common and decimal fractions. The notation (i.e., the names) is the only new thing in percentage.

5. The pupils should have considerable practice in taking measurements of lengths, surfaces, and solids, and they should learn how to use these measurements in making problems in mensuration.

The pupils may bring to school bills that have been used in business transactions. The discussion of these with the class will show the advantage of the conventional forms of ruling, heading, receipting, etc. The pupils should be asked to make out bills first on blank forms, if they can be obtained, afterwards on paper which they themselves have ruled. Let their imagination be used to make these business transactions represent actual transactions as far as possible. Let it be imagined that the teacher, or one of the class, has sold to the others a bill of goods or has done a piece of work for them or rented a house to them. The bill should contain the real names of the parties in the transaction. The pupils should learn how to receipt a bill properly and also how to give a receipt in such a transaction as the settlement of an account, the receiving of wages, the making of a part payment.

Sixth grade (second half)

The purpose of the review in this grade is to secure a firm foundation for future mathematical advance by making pupils sure and skillful in the use of the essential processes previously studied.

At the outset teachers should assure themselves of the ability of pupils to add and subtract, multiply and divide accurately. All cases of "arrested development" — such as counting while adding, adding instead of using the multiplication combinations, and writing down numbers to be added to the next higher order in multiplication — should be earnestly sought out and corrected. The teacher, particularly of this grade, should feel that unless this fundamental work is thoroughly accomplished his work in arithmetic is, to a considerable extent, a failure.

Sufficient drill should be given to enable pupils to reduce denominate numbers to higher or lower denominations, and to give them proficiency in changing fractions to other fractional forms; common and decimal fractions to higher or lower forms; improper fractions to mixed numbers, etc.

Much practice, oral as well as written, should be given this half-year in common and decimal fractions.

The new work of this half-year may be outlined under five heads:

1. Extend the use of per cent in simple problems. The terms *base*, *rate*, and *percentage* are seldom, if ever, used outside the schoolroom. Therefore they should not be used in the schoolroom. The terms *per cent*, *interest*, or *rate of interest*, *commission*, etc., should be used.

Only two kinds of problems involving per cents require attention: —

- (a) Those in which the part is to be found when the per cent is given; e.g., "Find 35 per cent of 600."
- (b) Those in which the per cent is to be found when the part is given; e.g., "200 is what part of 800?"

2. Problems in simple commercial discount and in interest for integral per cents involving years and months only.

Teach the simplest form of computing interest, i.e.,

find the interest for one year and multiply by the number of years.

3. Have pupils learn the per cent equivalents for $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{1}{6}$, $\frac{1}{8}$, $\frac{1}{10}$, $\frac{1}{12}$, $\frac{2}{3}$, $\frac{3}{4}$, $\frac{3}{8}$, $\frac{5}{8}$, $\frac{7}{8}$, $\frac{1}{20}$. These per cent equivalents should become so familiar that when the per cent form is thought, the common fraction form is thought simultaneously and vice versa, and the two should be used interchangeably in oral and written work.
4. In measurements, review and extend the work with the rectangle, square, triangle, cube, distinguishing them one from another. The problems in mensuration should be practical, pupils being required frequently to make their own measurements in order to obtain the conditions of the problems they are to solve.

Illustration: "Find the dimensions of your school-room." "What is the total area of the walls and ceiling?" "How much window surface?" "How much blackboard surface?" "Determine the cost of sodding the school yard and of inclosing it with a fence."

One good way of treating this topic is to work out problems relating to building and furnishing a house. Data for such problems may be secured from local contractors and supply houses, and it will be profitable for pupils to visit buildings that are in process of construction.

5. In order to train pupils to keep simple accounts — something that every one should be able to do — there should be at least one exercise a week in which the children make a record of their income and expenses. This exercise need not take an entire period. Except when class instruction is needed, the records may be made before school, or in a study period.

The accounts should be of actual moneys belonging to the pupils, if that is possible. It is better to have a few real items, than to have many that represent imaginary transactions. The accounts should state briefly, but adequately, the sources and dispositions of income: for example, not, "Rec. from Aunt Mary," — but, "Gift from Aunt Mary"; not,

“Paid out” — but, “Paid for Candy”; not, “Earned” — but, “Shoveling Snow,” etc. The headings at the top of the pages should be uniform through the book — as, “Received — Paid”; or, “Income — Outgo”; or, “Receipts — Payments.” Balances should be computed at the close of each month, and should be brought down properly with red lines, if possible, and carried forward to the next month’s account. Each month should begin on two pages, with proper statements of amounts brought forward from previous month. There should be a uniform use of capitals and punctuation. Pupils may keep memorandum slips, but entries in the account books should be made at school with ink, and accounts should not be copied. During vacations transactions may be recorded in memorandum form and entered in the books in school after vacation.

Sample page of Account Book

1915	Receipts	1915	Payments
Mar. 1 On hand.....	\$1.18	Mar. 2 Papers.....	\$.25
“ 6 From father... .	.25	“ 3 Car fare.....	.10
“ 14 Errand..... .10		“ 4 Pencil..... .05	
“ 20 Paper route... .75		“ 31 On hand..... 2.03	
“ 29 Errand..... .15			
	\$2.43		\$2.43

Let pupils bring to school bills that have been used in business transactions. This work is review, and pupils should become proficient in making and receipting such forms of bills as are used in common business.

Note on the work of the Seventh and Eighth Grades

During the preceding six years pupils have studied all the mathematics that is used in the common business of the world. But their mathematical experience has been very limited. The duty of teachers in the seventh and eighth grades, therefore, so far as mathematics is concerned, is to widen and deepen this experience, remembering, however, that the pupils are immature, and that the training should still be confined to the field of common business.

There are three parallel lines along which advance is to be made. (1) Pupils should increase their skill in interpreting problems, and in calculating with relatively small numbers, by constant practice. (2) They should have varied personal experience in the actual application of mathematics in their school and home industrial activities. (3) They should become aware of the uses of mathematics in the various activities of the life of the world by studying these activities first hand, gathering real data and problems, and formulating similar problems where it is possible; and where that is not possible, studying and using the data given in books.

Along this third line there will be opportunities for obtaining industrial and civic information that will have a general cultural value and may possibly be of individual industrial value.

The course of study here suggested for these grades is designed to accomplish these results.

SEVENTH GRADE

Outline

Accuracy and skill in computation with whole numbers, common and decimal fractions.

Facility in interpreting simple problems.

Estimating results in all problems, including those in mensuration.

Skill in actual measurements.

Drawing to scale and sketching diagrams.

Use of graphs in practical ways.

Problems related to earning money.

Problems of the school shop, sewing-room, kitchen, school and home gardens, and other school and related home activities.

Problems in denominate numbers based on actual measurements, using all the common tables.

Problems in percentage relating to retail business, and in simple interest.

Problems relating to local, state, and national business — agriculture, manufacturing, trade, and transportation.

EIGHTH GRADE

Outline

Accuracy and skill in computation with whole numbers, common and decimal fractions.

Facility in interpreting simple problems.

Estimating results in all problems, including those in mensuration.

Skill in actual measurements.

Drawing to scale and sketching diagrams.

Use of graphs in practical ways.

Common business forms.

Skill in making bills and receipts relating to actual transactions.

Discussions and problems relating to the business of home-making, including purchase of house, renting, taxes, up-keep, insurance, and furnishing; family expenses for a week, a month, a year.

Discussions and problems relating to inventories of home and business properties.

Personal investigations, class discussions, and problems relating to earning, saving, investing, and sending money.

Problems in simple interest.

Discussions and problems relating to town or city, county, state, national income and expenditure; taxes and bonds.

Discussions and problems relating to public service corporations.

Problems relating to such general science experiments as may be made.

Excursions to various local industrial establishments. Class discussions and problems relating to these industries.

Metric system (for information).

Geometry as applied in the shop, in diagrams, and in practical problems found in the various industries studied.

Algebra in so far as it is involved in the representation of quantity by letters and in the solution of problems by the equation method.

COLLATERAL READING

The Teaching of Arithmetic. David E. Smith.

The best brief general treatment of the subject. It is clear and concrete and discusses from the modern standpoint the different phases of theory and practice with which the elementary school teacher should be familiar.

The Teaching of Primary Arithmetic. Henry Suzzallo.

A statement of the results of an investigation made for the International Commission on the Teaching of Mathematics. It covers the work of the first six grades.

CHAPTER IV

GEOGRAPHY, HISTORY, CIVICS

THESE subjects are really three phases of one, namely, human life. A moment's consideration will reveal this fact. Geography treats of the earth as the home of man. History is the story of the past life of man. Civics has to do with the present social, industrial and political relations of man.

That the unity of these three subjects is being recognized by school authorities is evidenced by some of the recently issued courses of study. But as it is still customary to assign a separate period for each, it often happens that each is a distinct subject of study and recitation on the same day. If the proposal of some were adopted, to group them under one comprehensive name, such as "The Life of Man on the Earth," or "The Story of the Progress of Man," or "Human Life," it would seem to be possible to devise one course of study, including the three phases, to which only one period per day would be assigned. Such a plan would release a considerable amount of time for industrial activities, and might result in more effective teaching of these subjects themselves.

The following plan of correlation is made to accomplish these results. It is presented graphically first.

It will be seen that by this plan geography is made the basal subject of study for six and a half years, and that the historic and civic elements are recognized and emphasized as they appear in the geography study. During this same period, history reading and discussion is taken up as a part of the regular "supplementary" reading (this makes excellent material for silent reading), and civics is taught principally through the

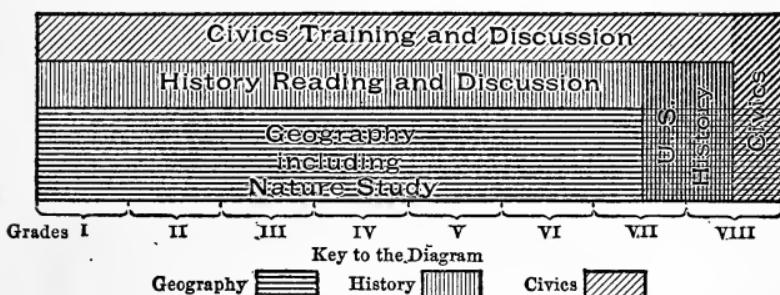


Diagram showing comparative amount of time to be devoted to history, geography, and civics in school work

training that the life of the school provides and through the discussion that the life of the school and the reading naturally suggest. A fuller treatment of these points will be found in the sections on "History," and "Civics."

It will be seen also that, during the year beginning with the middle of the seventh grade and closing with the middle of the eighth, United States history is made the basal subject of study, and that geography becomes a tool with which the pupil is now familiar, and which he is now ready to use. Geography will be emphasized

also in the discussion of current events. Civics, which has been taught more or less informally up to this time, during this year will have a place in the study of history and will also continue to be emphasized through the life of the school.

By the middle of the eighth year, pupils should have such a knowledge of history and of geography that they can use these subjects in an elementary study of the civic conditions in which they live, and see the influence of the forces of which these subjects treat upon the development of these present conditions. Thus the half-year given to civics will be a half-year also of review and application of the history and geography previously studied. This sort of review should be much more valuable than a going over again of old ground in the same way, for it will treat the familiar subjects from new points of view and it will establish new relations.

Geography

According to the general plan just outlined, geography will be the one inclusive subject through which pupils will become acquainted with the "story of human life" during the first six and a half years of the elementary schools. That story has never been fully told. It never can be fully told. Most courses of study have erred in prescribing too much of this story for study, with the result that teachers have felt hurried and overburdened and pupils have been much of the

time floundering in a sea of details or in the mire of the science of subjects which they are too immature to understand. Throughout these years it is the story that interests and that can be understood.

During the first three years it is of little importance that pupils acquire definite information. The useful results of the course will have been accomplished if the childish curiosity has been aroused and partially satisfied, if the childish mind has been given food for thought, if the childish imagination and sympathy have been given wings to fly beyond the immediate contracted horizon. But beginning with the fourth year the study of geography should become more definite. The earth should begin to take shape. The distribution of people on the earth, their dependence upon it and its varied influence upon them should be considered.

There are two sides to the study of life approached from the geographical direction. On one side are the pupil's own life and his immediate surroundings; on the other side are the life and the conditions that he cannot personally touch. The one side is "home geography," the other is "foreign" or "world" geography.

Home geography

Home geography should form what may be called the subsoil of the entire course in geography. The actual physical and social and industrial conditions in which one lives furnish the concrete illustrations by

which are understood the physical, social, and industrial conditions about which one cannot have personal knowledge. Unless the teacher plows up this subsoil, causing the pupils to become conscious of its existence, of its qualities and characteristics,—unless he makes use of the illustrations that are at hand,—the study of geography must be largely a learning and repetition of words. Of course it is true that pupils in varying degree unconsciously carry somewhat of their personal experience into their study of books, but the teacher who realizes that all new knowledge, all thought regarding the remote can become significant only as it is related to and illumined by the concrete experience, will not neglect to create opportunities for and devise means by which this concrete experience may be enriched. This can be accomplished only by a conscientious teaching of home geography and by a constant use of the facts of home geography for illustration and comparison. Alice Cary has expressed in the following stanzas the need that all have to *study* their immediate, familiar surroundings, if they would appreciate them.

“The truth lies round about us,
All too closely to be sought,
So open to our vision that
’T is hidden to our thought.

“We know not what the glories
Of the grass, the flower, may be:
We needs must struggle for the sight
Of what we always see.”

There are two ways of teaching home geography: by informal talks about familiar things, and by the school excursion.

Many occasions arise that offer opportunities for the use of the first method. There are questions of conduct and of health, there are the varying conditions of weather and the changes of seasons, and there are incidents relating to human, animal and plant life that are constantly attracting the attention of pupils, and that teachers may make the starting-point for instruction. The possible variety and significance of such discussions are indicated by the following topics: "Getting ready for school"; "Protection of feet in wet weather"; "Signs of spring"; "Use of seeds to man"; "The new building in town"; "The rainbow"; "Frost"; "Migration of birds"; "The habits of home pets"; "Harvesting hay."

The second way to teach home geography is through the excursion. Much has been written about this. It has been highly commended and strongly urged upon teachers. However, teachers in this country have been slow to adopt it. It is evident that they feel that their classes are too large and that the excursion takes more of the school time and more of their strength than it is worth. Moreover, few, very few, teachers have had any experience as students in going on these excursions, and they are inclined to doubt the value of them.

And yet conviction that the excursion is a sound and

necessary means of acquainting pupils with their immediate and adjacent surroundings persists. Particularly in cities, each year an increasing number of school children visit the art gallery, the public library, the park, etc. There is little doubt that as classes become less unwieldy in size, as the excursion becomes more common in high and normal schools, and as less stress is laid on "cold-storage" facts by supervisors generally, the school excursion will be generally adopted as a method of teaching geography in this country as it has been elsewhere.

A few suitable subjects for excursions are here suggested: *For Primary Grades* — The blacksmith's shop; a near-by river; the autumn woods; a greenhouse; a corn field; a grist-mill. *For Grammar Grades* — An Oriental store; a grocery store; an artificial ice plant; a commission merchant's store; a bank; the local water supply; the fire-engine house; a local factory; the town or city hall.

There is a modified form of the excursion that all may use. Individual pupils and committees may visit various places and report their observations, in the upper grades bringing back photographs which have been taken on the trip. Or a question may be assigned which calls for special observation by all the class within the field of their common experience. Of this sort are questions relating to the home, the grocery store, the meat-market; to road-building, street traffic, etc., etc.

This study by pupils of their immediate environment should continue throughout the eight years of the elementary school, as in this way alone geography, history and civics are related to life.

But it is interesting to note that the contemplation of the remote is often the most lively incentive to the study of the near at hand. When a child learns for the first time that there are children who live in snow houses, an interest is aroused to compare those houses with his own. When a boy reads about bows and arrows and chariots and armor, he is ready to consider with greater enthusiasm the customs of his own times. And so it comes to pass that home geography need not precede world geography as a study, but that the two may go along together, the one reinforcing and explaining the other.

World geography

World geography, as has been stated before, relates to that human life and its surroundings that has not been seen or touched personally. So long as the child has not seen the post office in his own town, the post office belongs for him to foreign geography. In every large city "The Other Half" described by Jacob Riis lives in a foreign country, so far as the "old" inhabitants are concerned. Foreign geography, then, is not a matter of distance or of time. The remote may be as easy to understand and may be as interesting as the near by.

For use in this study teachers of the first four grades have an abundance of books from which to choose. Miss Dopp has written of the children of the Cave Dwellers, and of the Tree Dwellers. Mrs. Perkins has written about the children of Japan and of Holland, and of other countries. Jane Andrews has described boy and girl life in different climates and periods of history in *Seven Little Sisters, Each and All*, and *Ten Boys on the Road from Long Ago*. There are besides stories of the early explorers and glimpses of life as indicated by such titles as *Little Folks in Many Lands*, *Strange Lands near Home*, *When I was a Boy in China*, *The Eskimo Twins*, *Under Sunny Skies*, *The Romance of a Mummy*, etc., etc. From all these "foreign" parts pupils will return bringing a thousand questions that will link their own and the other world together.

Nature study related to seasonal changes, to the window flower-box, to the school and home garden, to the drawing lesson and the readings suggested above, will not be lacking in a school that is taking a broad view of the study of geography, for these also furnish concrete illustrations that will give a better understanding of the related facts of world geography.

In the fifth and sixth years the rather miscellaneous all-round-the-world plan may give place to a more systematic study of the continents, followed by a somewhat detailed study of the principal nations of the world. At all times the center of interest will be the United States, the home country, the ultimate ques-

tions to be answered being, "How do the people of the United States live?" "What and how does each part of the United States contribute to the well-being of all the other parts?" "What does the United States give to and receive from the rest of the world, and how are these friendly exchanges brought about?"

It appears to be generally agreed that by the close of the sixth year this elementary field of geography should have been surveyed, but that there is yet needed a half-year of review, in which the principal countries of the world shall be emphasized from the view-point of their commercial relations with the United States.

If the course in geography is planned to stop at this point, the middle of the seventh year, a year and a half is left in which geographical facts may be reviewed and applied in current events, history and civics.

Products of an elementary course in geography

Such a study of geography as has been outlined should have specific as well as general results. The knowledge of location that pupils should have at this time has been summarized as follows:¹

Given an unlettered map of the United States, on which the States are outlined, our grammar-school graduate ought to be able to write the names of the States in their proper places. He ought to be able to do as much for the important divisions of South America, Europe, Asia, and Africa.

He should know the approximate location of the eight or ten best known rivers of the Mississippi system, three or four

¹ Professor R. H. Whitebeck, of the University of Wisconsin.

of the Pacific Slope rivers, and two or three of Canada; the three great river systems of South America; four or five of Africa; a half-dozen of Asia; two or three of the British Isles, of France, of Germany, and of Russia; also the Po and the Danube. He should, of course, know the rivers of the region in which he lives.

He should know the location of such arms of the ocean as are highways of the world's great commercial movements.

He should know the location of those islands and groups of islands that are real factors in the world's activities, or have a general historic interest.

He should know the facts of position, direction of trend, etc., of the half-dozen most important mountain groups of North America, the Andes, Alps, Pyrenees, Caucasus, Ural, Himalayas, and Altai; the location of a few of the most frequently mentioned peaks, such, for example, as Mont Blanc and Mount Everest.

There are a few capes that are often mentioned, such as Horn and Good Hope, and their location is worth knowing.

He ought to know something of the location of the *chief* colonies of Great Britain, France, Germany, Holland, and the United States.

He ought to know something of the location of some twenty-five of the chief cities of the United States, what those cities stand for in our industrial and commercial life, and the advantages of their situation. There are twenty-five or thirty foreign cities whose location should be definitely known, and also something of what these cities stand for. In addition to these, there are fifty or more cities at home and abroad whose names ought to be familiar to the pupil. It is sufficient to know merely in what state or nation these are located.

Professor Whitbeck is here considering only location facts. There are other facts, of course, that are no less important than these. They relate to governments, industries, social and religious customs, races of people, and to those natural conditions that have

affected human life. Under these headings should be taught those facts that are of general interest, as indicated by the frequency with which they are used in ordinary discussion and met in reading.

But useful knowledge is not the only desirable result of the study of geography. There are results of a different kind that ought to be evident. Among them is an interest in the earth and its people, an interest in world affairs, that leads to reading and discussion in which knowledge is used and increased. Then, too, pupils should have acquired the habit of reading maps correctly, using the parallels and meridians in determining directions and referring to the "Explanations" or "Keys" that give the information needed to understand the maps. Closely related to the correct reading of maps is the intelligent use of books. Geography should contribute to the training that is necessary to make pupils skillful in consulting tables of contents, indexes, statistical tables and graphs. In the higher grammar grades definite lessons should be given with this end in view.

The products of an elementary course in geography, stated briefly, should be (*a*) the small amount of geographical information of divers kinds that is current in the general books, magazines, newspapers, and discussions of the times; and (*b*) large human interests and good mental habits.

To illustrate the kind of thinking pupils ought to be able to do at the close of their elementary course of

study in geography and the kind of facts with which they ought to be familiar, the following set of examination questions is given: ¹

TYPE EXAMINATION IN GEOGRAPHY

PART I

(Answer ten questions only)

1. England and Labrador are in the same latitude. (a) Account for the difference in climate between the two countries. (b) In what way are the occupations of the people, their mode of living, and the products affected by this difference of climate?
2. During 1915 the opening of the Panama Canal will be celebrated in San Francisco by an exposition at which all States and foreign countries are invited to exhibit. Name one exhibit each of the following States and countries will probably make: (a) California, Iowa, Pennsylvania, Louisiana, Massachusetts. (b) Cuba, England, Japan, Argentine Republic, Chile.
3. To what government do the following countries belong: India, Hawaii, Canada, Philippines, Australia?
4. Make a list of five different things which you have seen recently from different parts of the world. Write the name of the country in which they are produced opposite the name of the object. Indicate on the map by numbers corresponding to the numbers on the list, the place in which they may be found.
5. Name and locate in a similar manner — on the enclosed map, using letters, *a*, *b*, *c*, instead of figures — two countries that produce large quantities of (a) iron ore, (b) lumber, (c) cotton, (d) gold, and (e) wool.

¹ Prepared by the Department of Public Instruction, State of New Jersey, and given to all pupils in the State at the close of their elementary course in geography, January, 1915. The subject is completed in some schools in the seventh grade; in other schools in the eighth.

6. (a) Name two sections in the United States where there are extensive deposits of coal. (b) Name the leading city in each section. (c) Name its other industries. (d) State how its products are shipped.
7. Mexico is a country rich in its natural resources. Name three of them. Compare it with the United States in regard to one of the following: (a) character of the people, (b) government, (c) manufactures. Name and locate two principal cities.
8. What do we mean by saying "the sun rises"? Between what imaginary lines on the earth do the rays of the sun fall at right angles with the surface? The greater part of what two grand divisions lies within this belt?
9. Name four of the following commercial and industrial enterprises that you would expect to find in every city or town: (a) rolling-mill; (b) grocery-store; (c) planing-mill; (d) bank; (e) bakery; (f) stock exchange; (g) stock-yard; (h) coal-yard; (i) newspaper; (j) laundry; (k) meat-market; (l) flour-mill.
10. (a) Name three railroads that cross the State of New Jersey. (b) Locate one prominent city on each railroad and name its leading industry. (c) Name three important commodities transported by these railroads.
11. The ships of the American-Hawaiian Steamship Company ply between New York and San Francisco. Name three commodities these ships carry to the Pacific Coast and three they carry on the return voyage.
12. New England has gradually changed from a farming to a manufacturing section. Give two reasons for this change.
13. Name two leading industries of your section, and give reasons for the development of these industries.
14. A group of four business men, a banker, an iron manufacturer, and a wholesale dry-goods dealer on a business trip, and a business man on a vacation, sailed from Europe to the United States on the same steamer. Suggest to each person three cities in which he would be interested.
15. On the enclosed map of the world locate by writing name

in proper place: Tokio, Mediterranean Sea, Constantinople, Pekin, Baltic Sea, Manila, Rio Janeiro, Buenos Aires, Nile River, Greenland.

PART II

“Special credit” questions

To the teacher: If any pupils decide to work one of these exercises, collect their papers and allow them to use their geographies.

1. Write a paragraph showing how the life of a boy or girl differs from your own in one of the following countries: (a) Japan, (b) England, (c) Cuba, (d) Russia, (e) India.
2. A prospective inhabitant has written to the Secretary of your Board of Trade, or a real-estate dealer, asking for information about your town or city. Answer this letter giving facts concerning the following: (a) opportunities for employment, (b) transportation facilities, (c) rents and taxes, (d) healthfulness, (e) educational advantages, (f) amusements. Address letter to James M. Cleaver, 17 State Street, Chicago, Ill.
3. Draw a map of South America and write in proper places thereon the names of the natural and manufactured products of this continent.
4. Compare Texas with Germany as to (a) size, (b) population, (c) industries, (d) wealth, (e) opportunities for education.
5. Compare the New England States with California as to (a) size, (b) population, (c) industries, (d) products, (e) wealth.

Geographical apparatus and its use

The apparatus useful in the study of geography is simple. The blackboard is always available, and teachers and pupils should make much more use of it than is customary in many schools. An able seventh-

grade teacher was once complaining that a certain boy could not recite in geography. The lesson was on the Great Lakes. She had just remarked that she had little time to use the blackboard, in fact she could n't do much with the crayon anyway. She was asked to let the boy recite at the board, drawing what he knew of the Great Lakes section. He was allowed to do so, and produced a wonderfully accurate map of the region, showing a very full knowledge even to details. This boy could talk with crayon better than he could with his tongue.

The sand-table has a limited use. Its value is not as great as was formerly assumed. The sand forms are suggestive, but are misleading unless the teacher is aware of their limitations and guards against them. A fourth-grade teacher was misusing this piece of apparatus, who in a sand-table lesson on slopes, river banks and river courses insisted that the water in rivers *always* runs down to the sea. Several of the boys maintained that a river sometimes flows *away* from the sea toward the hills. The fact was that a block from the school there ebbed and flowed a tidal river, which the teacher and pupils crossed daily going to and from school. The pupils had noticed that, when the tide was coming in, the water flowed under the bridge upstream. The teacher had failed to notice this, or she saw no relation between it and the lesson that she was attempting to illustrate with the sand-table. Moreover, as they all were accustomed to climb

a hill after crossing the river, it can be seen that a sand-table to teach about rivers and hills for these children was an impertinence, and it is possible that the teacher's absorption in the piece of schoolroom apparatus closed her mind to the facts within the range of her own vision.

There remains, however, a useful place for the sand-table. After individual hills have been studied from nature or from a picture, a *generalized* hill may be quickly constructed in sand. Likewise, *generalized* valleys, rivers, lakes, etc., may be modeled after particular ones have been studied. Again, a pupil may show in sand his conception of any of the geographical forms of land and water as he does by drawings on the blackboard.

Globes should be available for use in every school. They are indispensable for getting correct notions of a few fundamentals such as the shape of the earth; shape, relative size and location of continents and oceans; inclination of axis; revolution of the earth; parallels and meridians; zones; night and day, and the seasons. But they are not as good as maps for the determination of location and, in general, for the study of details. The inclined axis and the fact that only a part of it is visible at any one time, limit its use most decidedly. Its presence and occasional use, however, cannot help stimulating the geographical and astronomical imagination.

Into the reckoning of a teacher of geography this

imagination must be taken very seriously. Few adults probably ever truly create in their mind a round, rotating, forward-moving earth. Likewise few are able to *see* the moon as round, or have the strength of imagination to conceive the stars other than as spots of light. Too much, therefore, should not be expected or attempted in the direction of explaining astronomical geography. The important facts may be taught, but children must be allowed to learn them with such understanding as their limited imagination will permit.

Maps, next to the blackboard, and in the middle grades possibly more than the blackboard, are essential tools of the teacher of geography. To be sure, maps are inaccurate representations of shapes and distances. But these misrepresentations are unavoidable and the misconceptions to which they give rise are largely unavoidable, although their effects can be minimized by the teacher who understands something of the construction, the limitations and the language of maps. Those who have no knowledge of these matters are likely to err as did an eighth-grade teacher who was asked by an observing boy why the maps of North America were not the same shape throughout the geography. She insisted that of course they were the same shape, as a map was a picture of the continent. She sent the boy away unconvinced and mentally confused. Yet this was a teacher of long experience and on the whole efficient.

Pupils should be taught how to determine direction

on a map. It is not a difficult matter for even fourth-grade pupils to see that on a globe north is toward the north pole and that the meridians are paths leading to it. They may then easily see on a map of the hemisphere that these paths are reproduced, and from that time on whenever they read a map they will be able to follow these paths no matter what the projection on which the map is constructed. In like manner they may be taught to use the parallels whenever they wish to determine east and west directions.

Every schoolroom should be supplied with a Mercator map of the world (and if possible a hemispherical map of the world), a map of each continent that is being studied, and a large map of the United States. These should be a part of the permanent equipment of the room. They should be mounted on rollers and be hung at convenient places above the blackboard, preferably in the front of the room. It is well to leave the maps unrolled much of the time, so that pupils may refer to them as they study.

Pupils should learn how to point to places on the map and to trace boundaries and routes of travel with precision.

Large outline maps for use by the teacher, while pupils are working with small outline maps at their seats, are desirable.

Pictures are as necessary in teaching geography as maps and books. Most geography texts are richly illustrated, but where it is possible these should be

supplemented with lantern slides, stereoscopic photographs, postal cards and other pictures collected by pupils and teacher. The number, however, is much less important than their selection and use. Teachers may make three mistakes here. They may ignore pictures entirely; they may have too many of them; they may have them but not use them effectively. The study of a few will yield better results than the superficial looking at many.

A picture should be treated like a textbook. Something definite should be portrayed, and that is what should be looked for. A picture, like the printed page, should contain material for thought, the answers to definite questions. The picture should supplement the printed page, visualizing the idea it conveys.

The increasing use of the lantern in schools lends importance to the subject of picture study. In so far as the lantern is used to give "picture shows," its educational value is relatively slight. Its real worth is developed as the slides are carefully studied by individual pupils before they are displayed on the screen. One or, possibly, several slides may be assigned to each member of the class, who is held responsible for the preparation and giving of the comments when the pictures are projected by the lantern. In this way the lantern gives a motive for investigations of geographical questions, and for written and oral compositions.

Concerning methods

There is perhaps no one factor in teaching geography that will so control the method of instruction as the nature of the "problem" that is set for study and solution. It is not necessary at this point to discuss the central place of the problem in all mental action that is properly called thinking. This has been considered in other sections, and fully in other books.¹ Neither need it be pointed out that the problem has been involved in the study of geography in the past, although it was not called by that name, and its importance was seldom recognized. For instance, when a teacher put on the board an outline for the study of the physical features of a continent, such as "Mountains, Rivers, High Plains, Low Plains, Lakes, Coast, etc."; or an outline for the study of a country, such as "Surface, Drainage, Soils, Climate, Products, Races, Government, Exports, Imports, etc.," there was in fact a problem in each case that might be stated, "What are the principal physical geography facts relating to such a continent or country?" — or, "What are the principal facts relating to such a country, grouped under the headings, Surface, Drainage, etc.?"

It can be seen at once that such problems as these, even though they are not formulated, will decidedly influence the methods of instruction and of study, and

¹ Notably, *How to Study*, by F. M. McMurry, and *How We Think*, by John Dewey.

will determine the kind and number of facts that will be considered by the class. If the problems are abstract and unrelated to life, geography will be abstract and dead.

What are the proper geographical problems for pupils to solve in the primary and in the grammar grades? Few satisfactory ones have yet been proposed, for a good one in geography should have, as in arithmetic, three qualities: it should be worth solving; it should be within the mental capacity of the pupil; and each one should be of such a kind that its solution will make the pupil more skillful or more intelligent in solving the next one. Moreover, the pupil must understand the problem he is solving — it is not enough for the teacher alone to know it — and he must keep it in mind as he studies until a solution is reached and stated.

The following exemplify those suitable for primary grades: —

1. Where field flowers grow and how they are protected.
2. How we are fed. — Compare with Cave Dwellers.
3. How we are clothed. — Compare with Cave Dwellers.
4. How we are sheltered. — Compare with Cave Dwellers.
5. How plants work for man.
6. How do people live on mountains? — Compare with pupils' life.
7. How do people live on the seashore? — Compare with pupils' life.
8. Dramatize typical Oriental, savage, tropical situations.
9. What different ways do people have of transporting goods?

For the grammar grades problems like the following are suggestive:¹

1. What each continent receives from and gives to the United States.
2. Of what use is each ocean to the people of the United States?
3. Why is it easier to build a railroad from Moscow to Berlin than from Paris to Madrid?
4. Brazil is a country nearly as large as the United States, and it has been known to European countries for four hundred years. Why has it a population only one fourth as large as that of the United States, and why is it just beginning to take a prominent part in international affairs?
5. What are the factors that have been largely influential in developing the United States into a great industrial nation?
6. Advantages of the location of ten of the important cities of the world. Disadvantages. Compare with home city or town.
7. In spite of its small size, Holland is one of the great mercantile nations of the world. What has caused this?
8. The Argentine Republic has a better opportunity for future development than any other country in South America. Explain why this is so.
9. Why do the people who live on deserts and in the regions of perpetual snow have no settled homes?
10. Prove that immigration has been both a help and a hindrance to the development of the United States.

It would be well-nigh impossible for a teacher, who was using the problem effectively in the geography lessons, to make a poor use of the text-book, or of the supplementary geographical reader. There would be no occasion for such a teacher to assign sections of text

¹ Taken largely from *Course of Study in Geography, History, and Civics*, Indianapolis Public Schools, 1914.

to be memorized, neither would there be time to devote to purposeless oral reading. Such a teacher realizes that the facts contained in the text have value only as the pupils see their relations. Therefore there will be much class study with the teacher in which these relations become evident through the selection and use of the facts needed in the solution of the problem in hand. One or more phases of the problem may be left for private study, or some questions that have been raised will be assigned for individual or class investigation.

If a chapter is assigned for study without previous consideration in class, a definite purpose should be assigned for guidance in the study. Such a purpose is possible for almost every page of even the most uninteresting textbook. For example, in one geography half a page is devoted to a statement of disconnected facts regarding the surface of the British Isles. Such a section looks most unpromising. But a hasty reading will disclose two statements of importance to the people of the United States relating, one to the production of coal and iron, and the other to the raising of flax. Another statement recalls Scottish history, another explains the reason for the name "Emerald Isle," and yet another relates to peat, a fuel peculiar to Ireland and a few other places. Thus there is, even in this apparently barren half-page of text, a problem that, if it is formulated, will excite the pupils' interest and will lead them to read carefully, and to select and

weigh the relative value of facts. The problem here might be stated, "What in this section is of particular interest to the people of the United States? — to the people of Ireland? — to the people of Scotland?"

The supplementary geographical reader should be used in this same thoughtful way. Parts ought doubtless to be omitted, parts should be lightly skimmed, while some sections will be worthy of careful study. As far as possible, pupils should be made the jury for deciding on the relative value of the different parts of the books they read, so that they may be able to rely more and more on their own reading judgment. This subject has been quite fully discussed in the chapter on "Reading."

When the subject under discussion is suitable, dramatizing will be found as desirable a method of learning in geography as in arithmetic, reading, history, or hygiene. At the request of the pupils who were studying life in India, a fifth-grade teacher permitted them to dramatize an "Oriental bazaar." After a short conference among themselves a dozen were selected to take the lead. Soon the teacher's desk was moved aside and the space in the front of the room was cleared. The heads of the dozen again came together. Meanwhile comments and suggestions, aloud and in undertones, were coming from the other pupils. Soon the dozen disappeared into the cloak-room. Shortly they reappeared as Orientals, coats turned inside out to give strangeness to the costume, handkerchiefs tied around

the heads for turbans, wraps thrown over the heads of the girls to simulate veils. They gravely took their places on the floor in a circle, and, gathering their feet under them, announced to the school their readiness to do business. Several came from their seats and a bargaining began for various imaginary articles,—rugs, gems, silks, spices, etc., — that would have made an Oriental wonder if he were not back in his accustomed haunts. All this took only about fifteen minutes.

In such an exercise the ideas are presented vividly. There is no difficulty in getting pupils to talk and it is not probable that important facts will be forgotten.

There is perhaps less call for work in construction above the fourth grade, but the occasional modeling of a contour map, and the making of models of homes, bridges, carts, etc., as they are found in different countries will be interesting to some pupils and useful for all.

The use of the blackboard has been referred to. The pencil also is always at hand, and it should be used in geography much more than it generally is. In the lower grades pupils may copy and draw from memory many of the features of the illustrations in their text-books, such as the houses of simple people, their tools, weapons, etc. They may draw hills, lakes, islands, rocks, etc., and copy the pictures of grains, vegetables, etc., if these are given with sufficient detail to make their characteristics evident.

The elaborate and careful drawing of maps, on

which much time was formerly spent, has given place to rapid sketching of map outlines for immediate and temporary use. These sketch maps are very helpful in many phases of geography work, and the sketching habit should be cultivated by teachers and pupils.

In this discussion of methods of teaching, in which teachers and pupils have taken so large a part, it is not inappropriate to quote at some length the impressions and judgment of the well-known Russian Jewess, Mary Antin. She has related her experiences in the American public schools in her book entitled *The Promised Land*. Regarding the study of geography she writes as follows: —

In the grammar school I had as good teaching as I had in the primary. It seems to me in retrospect that it was as good, on the whole, as the public school ideals of the time made possible. When I recall how I was taught geography, I see, indeed, that there was room for improvement occasionally both in the substance and in the method of instruction. But I know of at least one teacher who realized this; for I met her eight years later, at a great metropolitan university. . . . Very likely they no longer teach geography entirely within doors, and by rote, as I was taught. . . . In all branches except geography I made genuine progress. . . . In geography I merely made a bluff, but I did not know it. Neither did my teacher. I came up to such tests as she put me.

The lesson was on Chelsea, which was right: geography, like charity, should begin at home. Our text ran on for a paragraph or so on the locality, boundaries, natural features, and industries of the town, with a bit of local history thrown in. We were to learn all these interesting facts, and be prepared to write them out from memory the next day. I went home and learned — learned every word of the text, every comma, every footnote. When the teacher had read

my paper she marked it "EE." "E" was for excellent, but my paper was absolutely perfect, and must be put in a class by itself. The teacher exhibited my paper before the class, with some remarks about the diligence that could overtake in a week pupils who had had half a year's start. I took it all as modestly as I could, never doubting that I was indeed a very bright little girl, and getting to be very learned to boot. I was "perfect" in geography, a most erudite subject.

But what was the truth? The words that I repeated so accurately on my paper had about as much meaning to me as the words of the Psalms I used to chant in Hebrew. I got an idea that the city of Chelsea, and the world in general, was laid out flat, like the Common, and shaved off at the ends, to allow the north, south, east, and west to snuggle up close, like the frame around a picture. If I looked at the map, I was utterly bewildered; I could find no correspondence between the picture and the verbal explanations. With words I was safe; I could learn any number of words by heart, and sometime or other they would pop out of the medley, clothed with meaning. Chelsea, I read, was bounded on all sides — "bounded" appealed to my imagination — by various things that I had never identified, much as I had roamed about the town. I immediately pictured these remote boundaries as a six-foot fence in a good state of preservation, with the Mystic River, the towns of Everett and Revere, and East Boston Creek, rejoicing, on the south, west, north and east of it, respectively, that they had got inside: while the rest of the world peeped in enviously through a knot hole. In the middle of the cherished area piano factories — or was it shoe factories? — proudly reared their chimneys, while the population promenaded on a *rope walk*, saluted at every turn by the benevolent Soldiers' Home on top of Powderhorn Hill.

Perhaps the fault was partly mine, because I always would reduce everything to a picture. Partly it may have been because I had not had time to digest the general definitions and explanations at the beginning of the book. Still, I can take but little of the blame, when I consider how I fared through my geography, right to the end of the grammar-school course. I did in time disentangle the symbolism of the

orange revolving on a knitting-needle from the astronomical facts in the case, but it took years of training under a master of the subject to rid me of my distrust of the map as a representation of the earth.

For in the schoolroom, as far as the study of the map went, we began with the symbol and stuck to the symbol. No teacher of geography I ever had, except the master I referred to, took the pains to ascertain whether I had any sense of the facts for which the symbols stood. Outside the study of maps, geography consisted of statistics; tables of population, imports and exports, manufactures, and degrees of temperature; dimensions of rivers, mountains, and political states, with lists of minerals, plants and plagues native to any given part of the globe. The only part of the whole subject that meant anything to me was the description of the aspect of foreign lands, and the manners and customs of their people.

COLLATERAL READING

1. *On the teacher's attitude:* —

Genetic Psychology for Teachers. C. H. Judd.
Chapter III, pages 78-84.

2. *On dramatizing:* —

The Dramatic Method of Teaching. Harriet Finlay-Johnson.
Chapter VIII.

3. *On the relation of the near and the remote:* —

How We Think. John Dewey.
Chapter XVI, pages 221-24.

4. *On the relation of geographic factors and life:* —

The New Basis of Geography. Jacques W. Redway.
Chapter IV.

5. *On the use of the textbook:* —

The New Basis of Geography. Jacques W. Redway.
Chapter VII.

6. *On maps:* —

The New Basis of Geography. Jacques W. Redway.
Chapter IX.

Also the following book: —

Teaching of Geography in Elementary Schools. Richard E. Dodge and Clara B. Kirchwey.

The most recent treatment of the subject. A reliable guide for super-visors and teachers.

History

In the first six and one-half years

Referring to the general plan outlined in the foregoing pages by which the study of geography, of history, and of civics are closely related, it will be seen that for the first six and one-half years of the elementary-school course it is proposed to teach history through geography and through supplementary reading. For it is evident that in so far as geography deals with the doings of peoples of present or past times, with their costumes, houses, and manners of life, it is using the same material that history uses. Some of the literature also read in these years will have historic significance, notably such poems as the *Lays of Ancient Rome*, *The Charge of the Light Brigade*, *Paul Revere's Ride*, etc.

But in addition to the history found in these related subjects, there should be a carefully worked-out course in historical reading. The books for this course should be selected from the standpoint of their appeal to the children in the grades to which they are assigned rather than with the idea of building up in their minds a systematic view of history. Such a view children of twelve to fourteen years of age are not capable of taking. Their mental eyes are not yet so far-sighted. They are, however, naturally interested in the picturesque and the personal, that is, the dramatic, the adventurous aspects of life, and these ought to be

brought to their attention in great abundance; not to study intensively but to contemplate extensively. Again, because of the so common misuse of oral reading, it needs to be emphasized that much, possibly most, of this supplementary reading should be of the silent reading sort, preceded or followed by class instruction and discussion.

For instance, the many delightful stories of chivalry and of the heroes, real and mythological, of other times, must be largely despoiled of their possible value for the child who is ready to enjoy them, if he is to be mentally bound by a halting, fragmentary, oral reading of them. Rather let the books be turned over to the class to read silently, each pupil browsing where he will and going at his own pace. If the assigned book cannot be read with facility, it has not been well chosen for that class.

But, it may be asked, "What is the teacher to do during these silent reading periods?" She may call to her desk from time to time one or several pupils, who may need the practice, for undertone, oral reading. She may notice here and there pupils who are not absorbed in their reading. These she may call to her and discuss with them the story. She may select some of the unusual words, or the names of some of the persons mentioned, for discussion at the close of the period, in this way reviewing the reading of the day. Or she may wait until the entire book has been read by at least half the class, and then have one or two periods

given to a retelling of the stories, possibly assigning each story to several pupils. Then there may follow an oral reading period, or possibly two periods, in which some of the striking passages will be rendered. Among these selections the teacher will be careful to include any stirring poems that may be found, such as *A Steed! A Steed!* *Of the Coming of the 'Saracens*, *The Troubadour*, and so forth.

In the books read during the first six and a half years there will be stories about the early life on this continent, dealing with the Indians and the white people of the exploration and settlement periods. There will be an abundance of biographical reading, so that pupils will become familiar with the great names of history, such as Columbus, Washington, Franklin, Lincoln, Alexander, Cæsar, William the Conqueror, Napoleon. They will memorize now and then such literary selections as have historic significance, like *The Gettysburg Address*, *Paul Revere's Ride*, *The Charge of the Light Brigade*, and others. The field of juvenile historic fiction will not be neglected, but the best that can be found in it will be brought to the pupil's attention.

As a summary of the foregoing, it may be said that during the first six and one half years of school pupils should come into contact with a large variety of the types of life and of the experiences of people of the past and present through their study of geography and literature, and through their supplementary and

historic reading. The celebrations of special days — Thanksgiving, Christmas, Decoration Day, and of the birthdays of our national heroes — will also make contributions to this gallery of historic pictures. The results should be an awakened and a nourished imagination, and an interest in other times, places, and peoples. There will be a small store of facts that are of enough value to be remembered, but for the most part the facts or assumed facts which have been presented have served their purpose in producing the very real and important, if somewhat intangible, results just mentioned. By such a preparation pupils will be ready in the seventh grade to take up the study of United States history systematically in a textbook.

In the seventh and eighth years

There has been a decided change in recent years in the character of the United States history textbooks written for seventh and eighth grades. Authors are giving great care to select those facts of history that have been influential in producing present conditions. They are selecting those phases of history for emphasis that relate to social and industrial life. And, most important of all, they are treating the subject so that the pupils, although they be but children, may begin to realize that people in the past were like themselves in their needs and ambitions; in their likes and dislikes; in their sympathies and prejudices; in their susceptibility to good and evil influences.

These authors have seemed to be at one with Emerson, who writes:—

The fact narrated must correspond to something in me to be credible or intelligible. We, as we read, must become Greeks, Romans, Turks, priest and king, martyr and executioner, must fasten these images to some reality in our secret experience, or we shall see nothing, learn nothing, keep nothing.

All that Shakespeare says of the king, yonder slip of a boy that reads in the corner, feels to be true to himself.

The student is to read history actively and not passively; to esteem his own life the text, and books the commentary.

To help teachers make history thus real, to help them make the study something other than the memorizing and repetition of assigned pages and chapters of a textbook, a wealth of suggestions is available. Let us visit a school where some of these suggestions are being successfully applied.

If the visit is made during the first lesson of the term, we shall find the teacher and the class making a study of the new textbook as a book. It is to be their almost daily companion for a year. They are to understand at the outset its purpose, and become acquainted with its contents as a whole. Together, then, the teacher and pupils will be found commenting on the cover, the title-page, and the copyright page; the teacher giving such information as he may have regarding author, publisher, copyright laws, etc., and referring all questions not instantly answerable to individuals for investigation and later reports to the

¹ *Essays* (First Series), "History."

whole class. The table of contents next claims attention. The plan of treatment employed by the author, the relative importance of subjects, as indicated by allotment of pages, names of persons and places that are already somewhat familiar are noted. Then the index is compared with the table of contents, and the use of each is discussed. Some practice is given in using each by hunting up the answers to some simple questions the teacher may ask for the purpose, such as "How many chapters are there in the book?" "How many different references are made to France?" "How many Appendixes are there?" etc. This leads to the assignment of the next lesson, which is, "Read the Preface and write on a slip of paper one thought of the author that you think is worth reading to the class. Also give some idea of the contents of each Appendix."

The next time this school is visited, a new chapter is being studied, "The Story of the Virginia Colony." The teacher does not have one pupil after another rise and read; but he says, "Give me the names of persons and places you find in the chapter and I will write them on the board." To do this the pupils must skim through the chapter, noting the names on a slip of paper. These are listed on the board. Familiar names are underlined, and important ones indicated by a cross. The main points in the chapter are then selected and briefly considered.

The assignment for the next lesson is given as fol-

lows: "Be able to state which are the most important of these names and explain why they are important. Be able to find quickly the references to the other names so that we may briefly discuss them. Write a paragraph summarizing the chapter."

The teacher informs us at the close of the lesson that after this general survey of the entire period he proposes to have the class imagine (or play) they are the settlers. They will start in England, re-creating the situation there and the various causes that led the Puritans to seek a new country. They will go through the experiences of establishing themselves in their pioneer homes, discussing the questions that were vital, and determining whether or not they would have decided them as they actually were decided.

We ask how many lessons this will take, and if every period of the history is treated in the same way. The teacher replies that the number of lessons depends somewhat on the way the class "takes hold," but that he guards against robbing other periods of their due proportion of time. As to the treatment of other periods, wherever peculiar conditions of life are a factor, he states that he tries to have the pupils put themselves into those conditions. This can be done sometimes by dramatizing a typical or critical incident or situation: sometimes by the pupils assuming the parts of the principal characters of a given period, representing their points of view and stating their arguments. The former method is applicable to such

incidents as the voyage of Columbus: the departure of the Mayflower from England and its arrival at Plymouth: a colonial school and other phases of colonial life. The second method of dramatizing is applicable to the period just before the Revolution, to the critical period before the adoption of the Constitution and to the period preceding and the one succeeding the Civil War. In these periods there are opposing ideas which it is important for the pupils to understand, and often they can do it best by accepting, for the time, the ideas of each side as their own.

The teacher said we might visit the class during any one of these exercises. We were present at a review lesson on the Revolution. The pupils had selected as the subject for this lesson "Washington's Farewell to his Soldiers." The teacher was seated at the back of the room. "Washington" took his place at the front of the room, and his "old soldiers" came from their seats and stood about in groups of two and three. One talked to another of some battle in which they had been engaged; several spoke of some characteristics of their chief, and referred to important events in his life. In turn, they shook hands with "Washington." He called each by name. One among them had been with him on his surveying trips; one had been present at Braddock's defeat; another had seen him take command of the army. At last "La Fayette" approached. "Washington" turned and discussed briefly the war, its causes and results, and the country's debt to France.

“La Fayette” replied with a prophecy of the future greatness of the new country.

It appeared that one lesson only had been given to the preparation of this exercise. In this short time the general plan had been developed, and each member of the class had selected or had been allotted a character. The pupils were to be held responsible for the dialogue, and the teacher was to rate each one as he took his part. Most of the girls took men’s characters. “Molly Stark” and “Mrs. Washington” were the only women present.

In response to another invitation we visited the class and found a debate in progress on the question, “Resolved, That no State ought to be allowed to leave the Union.” There were six debaters, boys and girls. It appeared that for several weeks the class had been studying the period leading up to the Civil War. At one time all the pupils had imagined themselves citizens of South Carolina; at another time they had identified themselves with the citizens of Massachusetts. They had thus tried to get into the spirit of each side, and to-day “Hamilton,” representing the early phase of the discussion, “Webster” and “Henry Clay” representing the later phase, were to meet “Jefferson,” “Calhoun,” and “Douglas.” The arguments were simple; there was no attempt to be original. Each was expected to present as clearly as he could the ideas held by the man whom he represented. Parts of the debates were written and read; parts were given from notes.

In response to an inquiry regarding some magazine pictures and other clippings that were on a bulletin board, the teacher said that the pupils were interested in bringing these to the class and occasionally a period was given up to the discussion of them. It appeared that they had recently had a "picture" lesson, in which each pupil recited from a picture. The idea was not only to show the picture to the class, but to point out the important features in it and to give its historic setting and significance. The teacher went on to say that pupils were prepared for this work by the study made of the pictures in the textbook. These were studied for their historic message as thoughtfully as the text. Through a richly illustrated magazine article pupils had become interested in the symbolic paintings of history and were bringing pictures of that character to the class for discussion.

"By the way," continued the teacher, "you may be interested in the diary of Columbus, of Mrs. Anne Hutchinson, of Pocahontas, of a private soldier at Valley Forge, and of a fugitive slave. In a diary one may express one's feelings and hopes more frankly than in letters. You will find that in these diaries the pupils have identified themselves very sympathetically with the persons whose character and place in history they have assumed, and that they have made these persons very human.

"Here are some short letters written by persons, great and small, in different periods of our history.

Several of the letters are illustrated with pictures cut from magazines or with pencil sketches."

"All of this," we observed, "is evidently very successful in interesting pupils in history, in acquainting them with the people, the events and the human problems of the past; but when do they learn the facts of history, and when and how do you prepare for examinations?"

The teacher replied, "The superintendent, the principal, and I approve the attitude of Professor H. Morse Stephens when he says that he cares little how much students know when they enter his classes in history at the University of California, but that he is very much concerned how *interested* they are in history. We try, however, not to neglect facts, and at certain times we have 'fact lessons.' The lists of facts to be reviewed are made sometimes by the entire class, and sometimes by committees appointed for the purpose.

"As to examinations, we never have one in history that is purely a memory exercise. They generally consist of three parts. First, a few facts that every one should know are called for. Second, there are two or three questions that require discussion in which is shown the quality of thinking a pupil has been doing in history. Third, the written papers are collected and pupils are allowed to consult their textbooks in answering the remaining questions of the examination. This is a test of their ability to use books.

"Thus we aim to have the examinations measure the

results we have been trying to secure. Evidences that a pupil is interested in history, that he has read more than he was required to, that he has been doing more than superficial thinking, count more than his ability to recall what the book gives. For such examinations as these, no special preparation can be made."

Two more questions closed our interviews with this teacher, and may properly close this discussion of the teaching of history. We asked what use was made of maps in the history classes and how much collateral reading was required.

The teacher replied, "We find that the study of United States history makes an excellent review of the geography of our own country, and in a measure, of the world. We make constant use of maps. As you see, they are hung just above the blackboard, on spring rollers, and sometimes they are all in use during one lesson. Pupils are expected to sketch quickly on paper, or on the blackboard, any part of the world that they may be studying — not always, however, from memory.

"The collateral reading is not an easy matter to regulate or direct. Some pupils are inclined to read too much, while others will read very little. There are pupils who neglect assignment reading, but who read a good deal of a miscellaneous sort if they are allowed freedom in its choice. I try to be tolerant of the tastes of these pupils.

"To interest all pupils in history, the teacher must

use a variety of methods. Some become interested through dramatization, others through debates, and yet others through current events and it is invariably these interests that lead them to read outside their textbook. When they begin to do this of their own accord, we consider that our teaching of history has been successful."

COLLATERAL READING

1. *On history in the first six years of school:* —
The Place of History in Education. J. W. Allen.
Chapter XIII.
2. *On dramatization:* —
The Dramatic Method of Teaching. Harriet Finlay-Johnson.
Chapters II, III, IV.
3. *On the kind of history to teach:* —
(a) *The New History.* James H. Robinson.
Chapter I, part II, and Chapter V.
(b) *The First Yearbook of the National Society for the Study of Education*, pages 35-36; 39-44.

Civics

To train pupils to be good citizens is to teach civics. Among all the responsibilities now resting on the public schools none is more weighty than that of perfecting this department of education. The full meaning of this responsibility has been realized only recently. For while it has always been true that in a good school training has been given in *some* of the fundamental virtues of citizenship, such as obedience and deference to authority, cleanliness, orderliness, promptness, truthfulness, exactness in the performance of duties, yet it has not always been given with the conscious

purpose of making better citizens. Rather it has often been incidental to the producing of better scholars, and to the creating of conditions favorable for the conduct of good schools.

This sort of training is necessary, and it is good as far as it goes; but it does not go far enough. For, while cultivating responsiveness to external control, it neglects the cultivation of self-control. And in this neglect it ignores certain other qualities that are desirable in a good citizen, such as inclination and ability to find work for one's self, systematic and skillful application to self-appointed tasks, ability to take and carry responsibility, recognition of social, industrial and political obligations, spirit of coöperation, open-mindedness and tolerance of others' opinions, judgment in the face of everyday practical situations, intelligence and conscientiousness in matters relating to health, and intellectual as well as moral courage.

The former program of training needs enlargement; its purpose needs to be made more inclusive, and, what is equally important, the training needs to become a process of which pupils and teachers alike are conscious, carefully thought out and systematically continued throughout the school life, bearing definitely toward an ideal of citizenship.

Children may realize very early in their school life that they are *now* citizens, and that in school they are learning how to live the citizen's life more worthily. This was a controlling idea of the Greek and Roman

boys in their school. Froebel fashioned the kindergarten by it.

If the school is organized in conformity with this ideal, it will be in fact a miniature democracy. Here the young citizen will live a controlled and regulated life, learning to obey those in authority; learning also to control and direct himself and others in various situations. Through class discussions he will come to understand his own rights and obligations, and the rights and obligations of others. Through the examples of those about him, through specific instruction, and through special exercises planned for this purpose, he will learn how to conform to the customs of the society in which he lives, and how to participate acceptably in the life about him.

To put the matter in another way, all the activities of the school, social and industrial, all its discipline, all its study of books should be planned with a view to furthering the realization of the ideal of citizenship expressed in the following inspiring words that are worth learning by every school boy and girl in America:

The Good Citizen Says¹

I am a citizen of America and an heir to all her greatness and renown. The health and happiness of my own body depend upon each muscle and nerve and drop of blood doing its work in its place.

So the health and happiness of my country depend upon each citizen doing his work in his place.

¹ John Cotton Dana, Librarian of the Free Public Library, Newark, New Jersey.

I will not fill any post or pursue any business where I can live upon my fellow-citizens without doing them useful service in return; for I plainly see that this must bring suffering and want to some of them. I will do nothing to desecrate the soil of America, or pollute her air or degrade her children, my brothers and sisters.

I will try to make her cities beautiful, and her citizens healthy and happy, so that she may be a desired home for myself now, and for her children in days to come.

Thus viewed, civics involves the study and practice of hygiene; that is, of health of body and of mind. It involves the study and practice of morals; that is, right social and industrial conduct, including clearly good manners. It involves the consciousness of high ideals and the acceptance of them as controlling influences in life.

From this point of view the school, a miniature democracy where young citizens are becoming enlightened and trained in the arts of citizenship, may be thought of as a gymnasium in which the teacher assumes the double function of instructor and "coach." As instructor, the teacher in each grade will follow a definite course of study in civics, adapted to the ages of the pupils, so that they will become progressively conscious of their rights and duties as citizens. As "coach" the teacher will be skillful in relating this instruction to the fitting occasions that arise or that are created in school, so that what is discussed and learned may not remain theories and abstract ideas, but may become in reality controlling forces in conduct.

There is a very close relation between such a course of instruction and training, and the study of government. In fact, in this process will be revealed at many points the reason for government control and the need of co-operating with it. For instance, a first-grade child, who is considering in school the matters that relate to obedience to parents and to their care of him, can be led to realize that the policeman is protecting him from the dangers of teams and automobiles when he enforces the law against playing in the street, and that in obeying the policeman he is obeying a law of the city government that was passed for his own good as well as for the good of others who have an equal right to the use of the streets and sidewalks. The policeman is not only a city official, but he is also a friend and guardian. The careful parent sees to it that the child wears rubbers in wet weather to guard him against taking cold. Obedience to this law of the parent prevents illness. The city government is also interested in the health of children and has laws requiring families to clear their sidewalks of snow. It employs men to clear out the gutters so that water will not flood the sidewalks, and it keeps the street crossings free from snow and mud.

Again, even questions of politeness lead directly to considerations bearing upon government, for pupils of all ages can see that if they have learned how to be thoughtful in their relations to others, to defer to elders, to help the weak, to respect the person of

those with whom they come in contact, they have learned to do voluntarily what the Government requires under certain circumstances, where people gather in crowded stations, on the street, and in public assemblies.

Thus the pupils will become acquainted with those parts of the government machinery that touch their own lives, until, in the eighth year, they will make a somewhat thorough study of the whole plan and procedure of national, state, and local government.

Such a scheme of civic instruction and training, to be completely effective, must have a place in the general life of the school, in the school industrial activities, and in the study of books.

Teaching civics through the life of the school

The spirit of the school will determine more than anything else the quality of civic training the pupils receive. If the teacher's attitude is domineering and the pupils' attitude is submissive, the fundamental conditions favorable for civic training will be lacking, and any instruction in civics given in such a school must be purely academic.

On the other hand, if the teacher has the attitude of a guardian, of a friendly senior guide, a counselor and, in time of need, a controller, the pupils in most cases will assume naturally a teachable, tractable, open-minded attitude. They will be responsive to suggestions. They will become partners with the teacher in

all that pertains to making the school a desirable and stimulating place to live in, instead of a place merely to sit and exist in.

The spirit of liberty

While there will be freedom in such a school, there need be no license. The sense of the teacher's final authority need never be absent any more than the sense of the final government authority is absent in the community. The realization of the purpose and limits of liberty will become ever more definite as pupils are allowed to live by its laws. No teacher can, of course, release at once a school that has been bound by and habituated to the autocratic rule. In some schools a larger number of mistakes will be made by pupils in the process of developing self-control than in others. Some individuals may not be quite normal because of physical or mental peculiarity or unfortunate home or social influences. But, trying as these difficulties may be, there is no more reason for maintaining a policy of repression in a school than there is for maintaining it in a community or nation. The policy of control and discipline ought always to be directed towards the realization of the democratic ideal.

There are many ways in which this spirit of liberty may express itself. Occasionally committees of pupils may be appointed to care for school books and materials, and for their distribution. If this is done merely for the teacher's convenience, or if these duties

are assigned to the pupils only who do them particularly well or because they happen to sit in the front or rear seats, those who need the training least will possibly receive most of it. These duties should be assigned to all in turn and be made a means of training for all.

The care of dressing-rooms, corridors, and playground pupils may share also with the teacher. They may decide with the teacher what restrictions or regulations are desirable in the school building and on the playground.

The teacher, who has made the spirit of liberty dominant in school, will give a sympathetic hearing to all suggestions made by the pupils that lead to self-activity and self-direction on their part. Some of these suggestions may lead to unusual and unconventional activities, but if they are in themselves wholesome and feasible, they should be encouraged and the pupils should be helped to carry them to a successful issue.

In a school of this sort the senior class earned its own money for the expenses of graduation. The girls made their graduation gowns. The boys sold articles made in the school shop and with the money thus earned purchased their graduation suits. In another school the class decided to earn the money for the class gift. Several of the boys earned their contribution by establishing a shoe-blacking "parlor" in a corner of a dressing-room, where teachers and pupils could buy a "shine" for a penny. In a certain large city school it

is the custom for the boys in the upper grades to take turns in supervising the passing of pupils in and out of school, one teacher only being in evidence at such times on each floor. Preliminary training for this larger responsibility is given in each of the lower rooms, where each boy takes his turn in overseeing the files in his room. If any disorder occurs the incident is reported fully, it is discussed in class, and the desirable policy in each situation is determined upon. This becomes the law of the school on approval of the principal. Now and then a committee of pupils is appointed to study and report on some matter that relates to the good name of the school, to the conduct of pupils on the street, to the cleanliness of the school building or the condition of the grounds. Inasmuch as these reports do not refer to individuals their discussion is impersonal, and the standard of thinking and action in those matters on which reports are made is generally raised perceptibly.

Use of dramatization

Occasionally, too, a lesson or discussion of some timely topic will naturally lead to a dramatization. In a certain seventh-grade room the teacher had occasion to bring to the attention of the class a matter relating to good manners. In the discussion that ensued she discovered that the boys seemed to approve politeness as a general policy, but that they were uncertain regarding what constituted it in specific situa-

tions. She finally said, "Suppose we try to solve some conduct problems?" The following are samples of those that were proposed:—

"1. A number of boys and girls wish to go through the same doorway."

"2. A pupil wishes to leave the room during a recitation."

"3. A boy and a girl pass each other on the street."

Two girls and two boys volunteered to solve the first problem. They started for the nearest door, which happened to be a spring door, opening outward. One of the boys stepped ahead to open it for the others, but found the situation complicated by the spring which kept the door from remaining open. The result was, that the first girl had to hold the door open herself while she passed through, and the second boy "forgot his manners" and pushed ahead of the second girl. All of this aroused friendly protests from the boys at their seats, and the "actors" returned for a general discussion of the situation. Two other plans for getting through the doorway were tried before it was agreed that, under the circumstances, the first boy should have asked permission of the nearest girl to pass ahead, thus making it possible for him to hold the door open while the others passed through. Meanwhile, the second boy had learned to "watch out," and not get ahead of the second girl.

The problem of passing out of the room during a school exercise gave rise to a variety of situations. The

teacher placed herself in front of the door; a number of pupils, acting as visitors, blocked the aisles. It was assumed that the class was reciting first on one side of the room, and then on the other. The pupils discussed each situation and solved the problem by leaving the room with the least disturbance under each set of conditions.

In attempting to solve the third problem questions like these were asked, "On which side of a person ought one to pass?" "Which hand should one use in raising the hat?" "How is one to raise a limp cap?"

It is needless to say that for the remainder of the term the teacher noticed a pronounced improvement in the manners of both boys and girls in the schoolroom and on the street. There was greater courage and more evident assurance and ease in meeting situations that required knowledge and judgment.

Relation of school and outside interests

Boys and girls have many interests out of school that may be utilized for training in citizenship. The school may take note of them. They may be discussed, the problems and difficulties in each may be considered, and school credit even may be given for creditable performance in these practical affairs outside of school. If a boy is helped to sell papers better, to be honest and efficient in his business, whether it be doing errands, or helping at home and on the farm; if a girl becomes more skillful in her performance of household tasks,

because of the interest and help of the school, the school is doing its proper work in civics.

It is, evidently, not the doing of these specific things, or the mere doing of other similar things, possibly some quite trivial, of which numberless examples might be given, that makes them valuable in civic training. But when they are the expression of the spirit of liberty that pervades the school, they are significant. When they are thought out and carried on for the purpose of establishing those mental and moral attitudes and of cultivating those qualities that are desirable in good citizens, they become, like the simple exercises of the gymnasium, a preparation for successful participation in the world's life.

Moreover, the relation of these childish problems and activities to government should be made clear. Those people who do not keep themselves and their homes clean become a menace to the community health, and government steps in and enforces cleanliness. People who do not control themselves within prescribed limits, or who are conspicuously ill-mannered, are controlled by the arm of the law.

The school as a civic organization

A school may be made thus a training-ground for citizenship without any formal organization for this purpose; but some have thought that the training could be made more effective by organizing the school as the community itself is organized. Such an organi-

zation, in its most complex form, is called "A School City." It is brought about by the adoption of a "charter" modeled after a city charter. Officers are elected, duties are assigned, meetings are called, in accordance with the provisions of the "charter." With proper supervision this plan has worked out successfully in many places, providing fine civic training for school leaders as well as for the general body of school citizens.

A less elaborate organization is the "Junior Civic League." This is perhaps better adapted to primary than to grammar grades. The pledge, purpose, and general plan of work are here given.¹

The Pledge

I pledge myself not to deface any fence or building, neither will I scatter nor throw rubbish in public places; I will not injure any tree, or shrub, or lawn; I promise not to spit upon the floor of the schoolhouse, nor upon the sidewalk; I will protect the property of others as I would my own; I will always protect birds and other animals; I will promise to try to be a true loyal citizen.

The Object

The object shall be to help keep our school and neighborhood beautiful, clean, and healthful.

The Work

Committees must be formed that answer the immediate needs of the school, and further committees will have to be appointed as the season changes, or as events in the school give occasion. Committees should be appointed to care for

¹ From *The Teaching of Civics*, by Mabel Hill.

window-boxes; for the planting and transplanting of bulbs; for the inspection of waste-baskets; for the care of unclaimed property; for the inspection of seat work material; for supervision of outdoor gardens; for inspection and care of sidewalks, grounds, and streets about the school building, etc.

The school savings bank is another kind of organization for civic training. This has a variety of forms. In some places local banks deal directly with the pupils. In other places, a woman's organization adopts and carries out a plan, representatives visiting the schools regularly to receive the pupils' savings. In yet other places, the teachers have charge of the collection and banking of these funds. But the best plan, where conditions are favorable, is to have this entire matter taken over by the commercial department of the high school. Thus a piece of real business is introduced into the department, giving most practical training, provided it is done according to actual savings bank methods.

Teaching civics through school industrial activities

The school savings bank, operated by the high school commercial department, is an illustration of the sort of correlation that must be made between the school industrial activities, and real problems and actual business and industrial methods, if these activities are to give industrial training and insight. Moreover, where this correlation has been established, the activities are found to cultivate also some qualities that are desirable for all citizens.

An illustration of such effective correlation in a small school district is here given:¹

The industrial and practical features of the schools are: a complete equipment for teaching and demonstrating cooking and domestic science, a manual-training shop, a printing-shop, a henhouse and a school bank.

In the domestic science department all the work has a direct bearing upon the life of the student as he is living it now. Each day a lunch is prepared and served to the students and teachers by the classes taking work in the department. The amount charged for the lunches pays for all the material used and leaves a profit of from \$1.25 to \$2.50 a day.

The girls in this department learn not only food values, with the science and art of cooking, but they are required to study the cost of food, the planning and serving of a meal and the care of the kitchen, all the cleaning being done by them. The students working at any one period are selected in such a way as to have older girls and younger girls working at the same time. Each girl of some experience is given charge of a younger girl who acts as an assistant. All the girls are still further made to feel responsible by requiring some definite thing from each one each day, such as the preparation of some article of food, sweeping the room, dusting the room, care of the closets, etc. Each day the bills for the material used, with a statement of receipts, are sent to the commercial department in the high school, where all the accounts are kept. At the end of the month the students who have had charge of the accounts prepare a detailed statement showing receipts and disbursements and the balance of profits.

The bills from the domestic science department are also used in the grades, where they are made the basis for the study of business forms. All extensions and footings are checked, and if found correct the O.K. of the class is placed upon them. If an error is discovered the class takes up the

¹ From a report by A. M. Hulbert, Supervising Principal of the schools of Park Ridge, New Jersey.

matter with the person furnishing the material and sees that it is corrected.

Hardly a bill comes in that does not contain material which readily lends itself to the subject of geography, spelling, English or history. These points of contact are carefully watched and are used according to the alertness and resourcefulness of the teacher.

The classes in manual training are encouraged to study the needs of the school, their own personal needs and the needs of the home. Work is then given according to what the pupil finds needful or necessary to be done. A few concrete examples will illustrate the work. In the domestic science building are about fifty windows. Last spring the necessity of screening these windows was brought to the attention of the boys. They studied material, cost, best type of frame, etc., and then built and hung screens in all the windows. The girls needed a kitchen closet. The boys planned and built it, saving at least \$25.

The printing department serves as another adjunct in making the regular work of the school concrete, and emphasizes the desirability of care, precision and accuracy. All school stationery and all blank books and forms used in the banking department, as well as the school paper, are printed here. As the printers become more proficient we hope to produce from the school press all blanks and forms used in the commercial department.

In the chicken-house fifteen to twenty hens are kept. The possibilities in this department in a rural community are almost without limit. At present the hens are cared for by the boys of the sixth grade, who are happy in doing the work. They furnish the kitchen, at the regular market price, the eggs that are used in cooking. The boys doing this work study the subject of chicken husbandry, keep strict account of the cost and income and are able to determine whether the hens show a profit or loss.

The school bank has proved to be one of the most popular enterprises that have been undertaken. It is organized and operated just as any bank would be. The teacher in charge spent considerable time in a national bank studying books,

methods, etc. The accounts are kept precisely as in a regular bank, *all* work being done by the students in the commercial department of the high school. Any pupil in the school may deposit any amount from a penny up. Interest at 4 per cent is allowed on all amounts from \$1 upward. Withdrawals are made on signature of the depositor countersigned by parent or guardian.

In some rural districts the agricultural and domestic activities of the pupils are studied in regularly assigned periods, and the reading, composition, spelling, arithmetic, and drawing lessons frequently relate to the school and home garden work, to the home and school sewing, cooking, fruit canning, etc.

In the highly organized workshops and sewing-rooms of city schools it is becoming the general custom to have all work even in grades as low as the fifth done under real shop conditions. Time cards are kept so that pupils learn to realize that "time is money." Stock cards are kept, so that "material cost" may be known. No work is done unless the workman has a definite purpose to fulfill. The article may be made to keep, to give away or to sell, but the pupil must want to make it for some purpose. Thus the article will be planned with a definite purpose in mind, and this purpose will determine the size, material, design, finish and cost. The materials for such articles are paid for by the pupil.

But a part of the shop work will be for the school, so that pupils will learn to work together for the common good, and to return to the community in service

some part of the contribution made by the community for their welfare.

Teaching civics through books

Many suggestions are made in the chapters treating of reading, composition, spelling, penmanship, mathematics, geography, history and hygiene, relating to methods of study that will give training in social conduct, and that will tend to produce mental habits of practical, everyday use in the life of a citizen outside of school. Selections in the reading book, poems that are memorized, and frequently subjects discussed in the composition lesson, will offer occasion for a wholesome lesson in civics, a lesson in which the teacher will not preach but will direct the pupils' thoughts in such a way that they will make their own comparisons and draw their own conclusions.

There are, besides, books of selections of poetry and prose that illustrate virtues, or desirable human qualities, such as courage, obedience, patriotism, truthfulness, etc. These selections, including episodes in the lives of worthy men and women, are suggestive and inspiring. If they can be used to throw light on real situations that arise in school or to reinforce particular civic lessons the impression they make on the pupils may be deep and lasting.

Geography and history, dealing as they do largely with the life of human beings, are in a measure textbooks on civics. This has been pointed out elsewhere.

In primary grades

The geography-history books read in these grades present the life-story of plants and animals, and the varied life of children in other lands. The wealth of material that is available is revealed in even a short list of these books:—

Lindsay *Mother Stories and More Mother Stories.*
Alcott *Aunt Jo's Scrap-Bag.*
Poulsson *In the Child's World.*
Dopp *The Tree Dwellers.*
 The Cave Dwellers.
Longfellow *Hiawatha's Childhood.*
Andrews *The Seven Little Sisters.*
 Each and All.
Defoe *Robinson Crusoe.*
Perkins *The Dutch Twins.*
 The Japanese Twins.
Bryson *Child Life in Chinese Homes.*

The many incidents and human experiences that occur in such books invite children to compare their own lives with those about which they read. These stories bring them face to face with the simple everyday duties and pleasures that are created by the family and community relations, and they illustrate those personal qualities and attitudes that promote individual, family and community well-being.

In the fifth and sixth grades

The more systematic study of geography in these grades brings into relief the element of government,

in its various forms, among primitive peoples and in highly developed states. Through these frequently recurring references to civic conditions and governments, pupils should come to realize the advantages of healthful, intelligent, progressive living for themselves, their school, their town or city, and their country.

This knowledge of what constitutes personal and community prosperity will be increased by the reading of history stories relating to pioneer life, to adventure and travel, and to various periods of history.

Again the material is abundant, as the few books listed below indicate:—

Hale.....	<i>The Man Without a Country.</i>
Spyri.....	<i>Heidi.</i>
Mabie.....	<i>Norse Legends.</i>
Aanrud	<i>Lizbeth Longfrock.</i>
Andrews.....	<i>Ten Boys.</i>
Pyle.....	<i>Story of King Arthur and his Knights.</i>
Tappan.....	<i>American Hero Stories.</i>
	<i>In the Reign of Alfred the Great.</i>
Hart.....	<i>How our Grandfathers Lived.</i>
Otis.....	<i>Colonial Series.</i>
	<i>Pioneer Series.</i>

In the seventh and eighth grades

The textbook for the study of United States history is at the same time a sufficient textbook for the study of civics during the first part of these years. Through its pages are scattered topics and texts relating to civic questions, and it is an advantage to discuss these questions in their historic setting. The sections describing

the early colonial life, the colonial conditions before the Revolution, the beginnings of the constitutional period, and the period since the Civil War, contain all the material that is needed for an understanding of how and why the community and government has come to be as we find it to-day.

But after a year has been given to United States history, pupils are prepared to study systematically, although in an elementary way, the community conditions in the midst of which they live, state and national, as well as local. For this they need a civics textbook.

The kind of textbook selected is of first importance. From the point of view of the discussion in the foregoing pages, it is evident that the textbook must have for its main purpose to put the pupils at work investigating their own immediate civic situation, for here will be found the concrete material for study. To this end the book will state questions that can be answered only by such investigations. It will suggest how these investigations may be carried on. It will provide for the study of local problems that are discovered by the pupils themselves. The textbook will also contain the information that is needed to supplement adequately the facts discovered by the pupils, and it will help them to interpret their facts. It will point the way to historic reviews and will make evident the influence of geographic forces. It will be a guide to collateral reading. Finally, the textbook will suggest ways and

means by which the pupils may become intelligent participants in the civic affairs of the community, since this is the goal toward which all study of civics should tend.

Conduct of the recitation

But the selection of a good textbook does not insure a good use of it. It is evident that the teacher of civics, in the sense in which the word is here used, is called upon to take a very different attitude from that of the teacher of facts about government, and to conduct her class exercises in a very different way. It goes without saying, that the mere assigning of lessons and hearing of recitations has no place here. The general character of a class exercise, in which the textbook is given its proper subordinate place, is described in the following words: ¹

The classroom exercise will occupy a supplementary, if not a secondary position. It will be a formal meeting where children gather to discuss their social affairs, much as citizens go to a club or a town meeting. Here they will report their problems, exchange information, propose solutions, and assign parts, emphasizing the constant common obligation of each little citizen and designating the especial committees with particular tasks. Throughout these stated classroom meetings, the teacher will be the natural leader. Out of his superior wisdom he will stimulate and supervise the group, suggesting methods and appraising achievements.

¹ Henry Suzzallo in the Editor's Introduction to *The Teaching of Civics*, by Mabel Hill.

Tests of successful civics teaching

Some of the tests that a teacher of civics may apply to his work have been stated in the form of questions, as follows:¹

Does our civics teaching appeal to the pupils' present, actual interest as citizens?

Does it afford the pupil an adequate motive (a) for studying the subject, (b) for participating in civic activities?

Does it stimulate the pupil to coöperate actively in the interest of his own community; i.e., his class, school, family, neighborhood, city, state, nation?

Does it train the pupil's judgment relative to civic situations and methods of dealing with them?

Does it cultivate in the pupil civic initiative?

Does it select and organize information with reference to its relation to the civic experience and interest of the pupil?

To accomplish these desired results no ambitious program is necessary, but there is required a sane and well-trained teacher with a vision to see the young citizen in perspective, and with the ability to use the forces and the opportunities at hand for his training.

COLLATERAL READING**1. On Conduct Problems:—**

(a) *How We Think*. John Dewey.
Chapter IV, pages 54, 55.

(b) *The Teaching of Civics*. Mabel Hill.
Editor's Introduction.

2. On Methods:—

(a) *The Teaching of Civics*. Mabel Hill.
Part I.

(b) *The Community and the Citizen*. A. W. Dunn.
Introduction for Teachers.

¹ Introduction to *The Community and the Citizen*, by A. W. Dunn.

3. *Suggestive Lessons:* —

(a) *The Teaching of Civics.* Mabel Hill.

Part II.

(b) *The Community and the Citizen.* A. W. Dunn.
Introduction for Teachers.

Also the following books: —

Lessons for Junior Citizens. Mabel Hill.

Civics for children approached from the standpoint of government control in towns and cities. Lessons given in the form of stories.

A Course in Citizenship. Ella L. Cabot and others.

Lessons through stories and poems on civic relations. Suggestions for morning talks.

The Place of Industries in Elementary Education. Katharine Dopp.

The best and most concrete treatment of the subject, showing the relation between the book and application in history, geography, civics, and other elementary subjects.

Pamphlets issued by the United States Bureau of Education: —

The Teaching of Community Civics. Bulletin, 1915, No. 23.

The Trend of Civic Education. Reprint from Commissioner's Report of 1914.

Civic Education in Elementary Schools as Illustrated in Indianapolis. Bulletin, 1915, No. 17.

CHAPTER V

HYGIENE

THERE can be no difference of opinion that instruction and training in matters of health must occupy a large place on the school program. In fact, good health is so fundamental to successful living that all civilized communities have assumed the task of securing it in ever increasing degree to all. How to perform this task is perhaps the foremost concern of citizens and governments to-day.

PUBLIC AND SCHOOL RESPONSIBILITY

Public and private health agencies have been multiplied in recent years. There are pure-food laws, and food inspectors; there are tenement-house laws, and inspectors; there is free hospital treatment for all kinds of ailments; there is school medical inspection; and there are playgrounds, gymnasiums, and recreation centers.

But through the school alone can be given that instruction and training during the period of growth that will make the conduct of the great body of citizens self-controlled and intelligently directed.

How the teacher's part of this responsibility may be successfully met is now pretty clear as a result of

the study and experimenting of many students of education and of many teachers. There are two means at his command, the life of the school and the textbook. These must be used skillfully and they must be closely related.

The possibilities of the school as a training-ground for citizenship have been discussed at some length in the section on "Civics." Good health as a factor in good citizenship has also been referred to. It remains to indicate here some specific ways in which the life of the school may contribute to the establishment of conduct habits that bear upon the health of the young citizen.

And first it may be noted that no one, child or grown person, is likely to do this or that desirable thing or to refrain from doing the undesirable thing, except in a haphazard way, without a sense of personal responsibility. Few are likely to have a sense of responsibility where responsibility has not been systematically assumed. Children differ as much as grown people in their natural tendency to assume it, and this difference in temperament ought to be considered by teachers as much as difference in arithmetical or any other kind of ability. For it is the duty of the teacher to cultivate in each pupil a sense of responsibility in matters of health and not simply to utilize the interest of those who are naturally care-takers.

A beginning may be made in the most obvious situations. For instance, the schoolroom and entry floors

are clean, while the roads and school-yard are muddy. The teacher may make rules about cleaning shoes before entering the building, he may threaten and he may punish disobedience of the rules. By such a course the teacher assumes sole responsibility for the clean floors.

There is a better way, however. The teacher may start a discussion in which he will stimulate the pupils to talk freely about their observations — the dirt that is in the roads and on the sidewalks, the dust that results when this dirt dries, the appearance of a dirty floor compared with the appearance of a clean one, etc. If it is agreed that such dirt is untidy and undesirable to breathe, the teacher may put the question, "How can we keep it out of doors?" Practical results are sure to follow such division of responsibility. Pupils will be fertile in suggestions. Facilities for cleaning shoes will be placed at the entrances to the building; committees of pupils will be appointed each week to look after this matter. The teacher becomes a friendly overseer; the pupils become directors and performers of self-appointed duties. Many of the discussions may be carried on very properly during the oral composition period, with a written paragraph to follow, if it seems timely.

Again, the effect of sunlight shining directly into the eyes; or the injury to eyes in trying to read indistinct writing on the board, or print in books when the light is dim, or the results of constant bad posture while sitting or standing; these and many other matters

relating vitally to health may be treated in much the same way. By these discussions, in which the pupils take a much larger part than the teacher, the evil, being thus related to their own lives, becomes real, and the adoption of practical ways of avoiding it is the natural outcome. Thus the evil is avoided, not by the teacher's exercise of authority, but by the pupil's own feeling of obligation to himself and to the school.

It may happen sometimes that a pupil in adjusting the shades to regulate the light for his own convenience, or in regulating the temperature, or in doing any other thing desirable in itself or for his own personal advantage or convenience, may inconvenience others. Lowering the shade may darken the room too much; raising the shade may cause a reflected light on part of the blackboard; raising the window to reduce the temperature of the room may endanger the health of those sitting near the window. Such situations are sure to arise as soon as pupils attempt to be "doers of the word and not hearers only." But instead of being disturbed at these occurrences, the thoughtful teacher will rather welcome them. They will be recognized as the very occasions that are needed for teaching the pupils how to translate general instruction into particular acts. It is this kind of immature effort to do the right thing that causes thoughtless parents at home to say, "Oh, stop meddling with the curtains. I'll fix them myself." But

the teacher, having in mind the training of children will say, "John wished to regulate the light. Let us all consider his problem and help him solve it in the best way." In the brief discussion that follows, the various factors of the problem will be considered — the convenience of others; the lighting of all parts of the room, not simply one desk; the lighting of the blackboards. Then other ways of meeting John's need for more light may be proposed. Thus John's failure to perform skillfully a well intentioned act will prove a benefit to the entire school.

By the end of the second year of school, and from that on, pupils should habitually protect themselves from eye strain; they should habitually stand properly when they recite and do many other things that are desirable from the standpoint of health, not at the reiterated suggestion of the teacher but because they know how and are self-governing in these particulars. In the school, that is in truth a training school, many opportunities will arise for the teacher to put into action the latent power of the pupils, thus affording them first-hand experience in health conduct. Some of these opportunities are pointed out in the succeeding pages.

FOR TEACHERS OF GRADES I-IV

Children in these grades are little interested in the laws of health in the abstract, and they cannot yet understand the reasons for the different lines of action

that are discussed. They are not yet able to derive much profit from the study of a textbook on hygiene. They need positive and definite instruction given in such a way that they can *at once* put the instruction into practice. Almost all the lessons may be dramatized, that is to say, acted out in a variety of ways. Dialogues may be composed orally in the hygiene or composition time, and later they may be written. Children of these grades will delight to "play" these dialogues and dramatic games, and with little help from the teacher will plan them and carry them out, for they are exactly the sort they play by themselves when they "play house," "play dolls," "play store-keeping," etc. If the children do not do these things in school it is because the teacher in some way prevents it.

A few concrete illustrations are here given. The teacher will be able to apply the method implied in them to the various topics he selects to teach, and he will be able to adapt them to the grade of pupils he may have.

Reading by lamplight

The teacher has had a simple lesson on the sensitive nature of the eyes, in which pupils have been allowed to speak of the near-sighted people they know. At the proper moment the teacher will mention the fact that reading at night with a poor light is one cause of eye-strain that leads to defective vision and headaches.

It is then suggested that they play that they are a

family sitting about the table in the evening. A father, mother, and one child are first selected as actors. A committee is quickly appointed to arrange the table and chairs. A vase, or plant of appropriate size, will serve for a lamp. The family take seats at the table, the father reading his newspaper, the mother pretending to sew, and the child sits down to read. *Question*, "How shall the 'child' sit so that the light will fall correctly on his book?"

The "child" will begin to read, sitting and holding his book as he thinks best. The class will then discuss his position and others may take his place to illustrate different positions. Meanwhile all pupils at their seats may test themselves, holding a book as they naturally do in reading.

Other "families" may be selected with two, or with three children, so that the pupils may learn how to meet more complicated situations.

On several succeeding days the teacher may keep the lesson fresh in mind by asking, "Who were careful last evening to read by a good light and so that the book was illuminated from the left and rear?" Those who did not do this may be allowed to describe the conditions that prevented.

Exercise in the use of the toothbrush

The preparatory lesson on the need for using a toothbrush has been given with simple directions for its use. The teacher has a new brush with which she illustrates

her talk. Each child in turn may come to the front and "making believe" that he has a brush and a tumbler of water, may go through the motions of brushing the teeth up and down, from side to side, the back of the teeth and the tongue and rinsing the mouth.

Exercise in conduct — at the dining-table

After a preparatory discussion of the different ways that various nations have of eating, the Chinese, the savage, etc., the children are led to see that the meal may be a happy and orderly and refined social event. Certain conventions are observed by all people. Some of our conventions may be stated on the board as follows: —

1. Do not eat fast.
2. Do not make a noise when eating soup.
3. Do not fill the mouth too full.
4. Do not smack the lips.
5. Do not open the mouth when chewing.
6. Wipe the mouth with a napkin.
7. Do not pick the teeth or put the fingers in the mouth at the table.
8. Carry food to the mouth with a fork or spoon.
9. Do not laugh with the mouth full of food.
10. Do not lean on the table with the body or arms — sit erect.
11. Do not make gestures with knife, fork, or spoon.
12. Children should not talk too much at table.
13. Do not leave the table without asking permission of mother, or if mother is not present, of father.

These precepts may be brought into a dramatic exercise in which the children correct each others' imaginary mistakes or the "parents" correct the children.

Teaching cleanliness

The work of the teacher begins long before she reaches the schoolroom. The pupils will look at her as a model; and young eyes are very sharp. If her clothes are untidy, her finger nails dirty, her hair carelessly arranged, or her shoes rusty, they will be the first to detect it, and will be wondering why she does not do what she says they ought to do, and they will begin to doubt, perhaps, whether cleanliness is such a very necessary thing after all.

At least twice a week let the teacher begin the day's work by an inspection of the pupils. If they are accustomed to line up outside the school-building and march in, the inspection may take place in the school yard. They may be drawn up in two lines, with hands extended, palms down. The teacher passes between the lines examining head, face, neck, ears, hands, clothing, to right and left. Each child may drop his hands as the teacher passes. Those who are pronounced untidy will step from the line. After inspection, those who have passed muster will march to the building. Those in the "Careless Squad" may be given two or three minutes to correct their fault, if they can. Others, and the habitually careless, will need special help, and this must often be given with great tact. Much depends on the character of the community. In some places it would be a good thing to send the careless pupils home with a note stating the

cause; or possibly with an older boy or girl who could explain that the teacher insists upon cleanliness, adding that this is not the only careless child and that all careless children are treated in the same way. But in districts where attendance is irregular, because parents are not anxious to keep their children in school, such a measure would fail to accomplish the desired result. In such a place the child's pride must be appealed to. The matter may be taken up privately the first time, calling his attention to the clean children, telling him how much better he would look, how much better he would feel, if he kept himself tidy. Encouragement and opportunity to grow out of his carelessness gradually is better than harshness. Let him get out of the "Careless Squad" just as soon as he shows he is trying hard to do better.

Inspection may be made in the schoolroom by rows, if that is preferred, having the pupils rise, one or two rows at a time, and stand in position in any open space in the room (front, back, or side).

As stated before, in some schools inspection should be made at least twice a week, and during the first month daily. The days may be changed so that, if necessary, the children may not know when to expect inspection. On days when there is no formal inspection the teacher may observe the children as they are sitting. If a child is untidy, his attention should be called to his condition before he goes home, and he should be directed to be more careful the next time.

The assistance of the medical inspector, if there is one, should be sought in extreme cases.

Emergency treatment

In the early grades the teacher can probably best convey the lesson by putting it into the form of a story. For instance, she wishes to teach the proper treatment of a cut. A story like the following might be told: —

“ John was a boy ten years old. He asked for a knife as a present for Christmas. Uncle Samuel gave him one, explaining how he was to use it, that he must never run with it when it is open, that he must always whittle *away* from his body and his hand; and he also showed him how to open and shut it so as to avoid cutting himself. What boy has a knife? Will you show us how to use it correctly?

“ John did pretty well for a while, but he at last made a mistake and ran to his mother with a cut finger. It was bleeding badly, but that was not very important, for it showed John had good blood. His mother washed the cut clean with clear, warm water, and bound it up in a clean cloth.

“ Let us imagine some one has cut his finger. First I will be ‘mother,’ then one of you can be.”

The teacher has at hand a basin of water, some pure soap, and some strips of clean cotton cloth. She first cleanses and binds up a supposed cut on the hand of a pupil. Pupils in turn do the same for each other.

FOR TEACHERS OF GRADES V-VIII

At the beginning of the fifth grade teachers will need to supplement their own instruction by a textbook. But in using the textbook they should not yield to the subtle temptation to turn the subject into a book study. To live well is still to be the outcome of the study rather than to know much. The textbook is, therefore, to be used in such a way as to illuminate and stimulate individual action, and one should be selected that lends itself best to this kind of use.

The undesirable and the desirable ways of using the textbook may be distinguished by a few illustrative lessons. As these are reports of actual lessons, the grades in which they were given are indicated, although similar lessons might be found in any of the grades that uses a textbook.

An eighth-grade lesson

Teacher — “Take physiologies and turn to page 40. John, you may read.” (John reads a paragraph.)

Teacher — “The next pupil may read.” (The pupil reads a paragraph.)

Teacher — “Is there any one who does not understand what has been read so far? Well, the next may read.”

This reading was continued for about twenty minutes. A few mispronounced words were corrected. One or two paragraphs were re-read “because the first

reader did not read it smoothly." The teacher made a few remarks upon the meaning of the text. The reading was poor, the attention was indifferent. The subject of the chapter was "Corpuscles," but at the close of the lesson no member of the class appeared to know what corpuscles were except one girl who thought "they might be *bugs*," although no such inference could be drawn from the text.

This is an extreme example of a type of hygiene lesson that is all too common. The teacher who gives this kind of lesson will vary it sometimes by the assignment, "Take your physiologies and study the second chapter. I will hear you recite presently." Both varieties are bad, but the latter is less harmful, for at least during the study period the pupil is not interfered with.

A fifth-grade lesson

The visitors on entering the room found the pupils all looking down between the desks, apparently at the floor. At a word from the teacher the pupils sat up, and they and the teacher together made this explanation:—

Several weeks before the class had been reading in the textbook a section on cleanliness of clothes. In the discussion that had arisen during the reading, references had been made to their own clothes. The discussion had drifted in the direction of personal untidiness and its bearing on the school, and then to shoes as carriers of dirt and as indicators in general of the care

one takes of his person. The final result was the organization of the school into a "Clean Shoe Club." This club held a meeting once a week in one of the hygiene periods, but was a continuously active organization through its officers, who inspected shoes daily and saw to it that the schoolroom floor was kept free from unnecessary dirt. The day of the visit happened to be a regular meeting day, and the pupils were not looking at the floor, but were inspecting their own and their neighbors' shoes. It appeared on further investigation that the interest of the "Club" had extended to the homes, and that not only were shoes and the schoolroom very clean, but that a decided improvement in the condition of clothes and in the care of hair and teeth was evident as "by-products."

The teacher was asked if the "Clean Shoe Club" was to be a permanent organization. Her reply was, "No, I think the 'Club' has about served its purpose. Through it the pupils have become more thoughtful about their personal appearance, and we shall soon emphasize some other feature of right living. I doubt, however, whether the club idea will be used. I find the children very inventive, and some one of them will be sure to suggest a novel and interesting way to practice what the book preaches when the time comes."

A sixth-grade lesson

The chapter on "Emergencies" was introduced by a short discussion about the meaning of the word and

by a few personal experiences or observations illustrating them. The teacher gave the first experience.

The reading that followed the discussion was entirely silent reading. One emergency and its treatment was taken at a time. The "recitation" consisted of an informal dramatization of the situations discussed in the text. Groups of pupils carried out in detail the directions given in the book. If any question was raised, the class read the section again silently and either confirmed the treatment that was being given or agreed to modify it. A few passages were read aloud. At one point in the lesson a boy was supposed to have broken his leg in the woods. His companion took him over his shoulder, as the book directed, and carried him down the aisle to his seat (home).

A seventh-grade lesson

Teacher — "The next chapter in our book discusses 'Physical Exercise.' Before reading it, let us see how much we already know about the subject. We must know something, for we have been exercising all our lives and we have been studying hygiene for several years. No, don't raise your hands. Take a pencil and piece of paper and in two minutes write down all the reasons you can think of why *you* ought to exercise."

At the end of the two minutes, she asked one of the good writers to go to the board and put down in a list the reasons different pupils gave from their papers. After all the different reasons had been listed, they

were compared to see if there were similar reasons that could be combined. The list was in this way somewhat shortened.

Teacher — “All shut your eyes and think. Picture in your mind the human body. Without opening your eyes, tell me the different parts of the body that are benefited by exercise, and I will write them on the board.”

When no one had any more suggestions to make, they opened their eyes and studied the very miscellaneous list.

Teacher — “Let us try to sort these various parts into related groups.”

Soon they had combined them into the “skeleton,” “muscular,” “nervous,” “digestive,” and “circulatory” systems.

Teacher — “The effect of exercise on some of these systems is more evident than on others. Which are you in most doubt about?”

The pupils finally agreed, with the teacher’s help, that the effect on the nervous system and circulatory systems was least evident.

Teacher — “Time is up. Between now and the next lesson read the chapter on ‘Physical Exercise,’ noting any facts or suggestions that are new to you. The recitation will consist of reports and a discussion of the notes that you have taken as you read the assignment.”

Later the teacher informed the visitors that the next

lesson would doubtless lead to topics like the following: military training; Boy Scouts; Camp-Fire Girls; inter-school sports, effect on growth; self-control; use of alcohol and tobacco. There might be so many topics, she continued, that she would be obliged to assign some groups of pupils for special reports, and she thought it likely that the class might invite the director of the Y.M.C.A. or of the Y.W.C.A. to come and give a talk.

But one of the visitors said, "Are n't you planning to spend a long time on one chapter? How about your examinations?"

The teacher replied: "We are studying hygiene with the textbook to *help* us, we are not studying the book as an end. Moreover, we are really reviewing a great deal and learning incidentally much that other chapters discuss. So that every chapter will not be given so broad a treatment. In fact, I find pupils reading in all parts of the book as they touch subjects that they are interested in. As to the examinations, these are never allowed to interfere with the work that we have agreed is best for the pupils."

An eighth-grade lesson

This was in a large city school. The class had been reading in the textbook about the value of fresh air and the importance of ventilation. During the discussion that accompanied the reading a question was asked about the open-air school for anaemic children

in the city. A committee of pupils was appointed to visit this school and report to the class. The discussion of the report resulted in turning that eighth-grade room into an open-air schoolroom. Before this could be done, however, questions of suitable clothing, of permission of parents and of school authorities, etc., were raised, and in various ways were answered. In all this the pupils took the lead. They conducted the correspondence, they laid the plans, they carried them out. The teacher was always a helper, often a guide, and occasionally a judge; but never the dogmatic director. It hardly need be noted that there was little time for the formal oral reading of the textbook and for the correction of John for leaving out "the" and of Mary for keeping her voice up at the end of a declarative sentence.

In the type of lesson illustrated by these examples it is evident that pupils are learning to read in the best sense, that they are learning how to use books, and that they are applying the knowledge they gain from books in ways that must have a lasting influence on their present and future conduct. In this spirit and with this purpose every hygiene lesson may be conducted in every grade and in any of the many phases of this many-sided subject.

IN RURAL SCHOOLS

Teachers in rural schools are more fortunate than those in city schools in having favorable conditions

for training in hygiene as well as in nature study and elementary agriculture. In these schools, no matter how ungraded they may be, hygiene problems are real and close at hand. It is the growing custom in such schools to give one period a week to this subject. The entire school joins in the exercise, the primary grade children listening, the intermediate grade children listening and asking questions, while the upper grade children are responsible for the discussions.

At times the factors in and about the school that affect the health are enumerated and discussed, and the book is used for reference. At other times the book is studied, the various topics are discussed and illustrations of the text are drawn from the school, home and community. In one school an entire term was given to the questions, "What does our school need to make it a better place to live in, and how can we improve it?" By the end of that term, new sash curtains had been made by the girls, picture molding and a bookcase had been made and put in place by the boys, the outhouses were screened, a "sale" at the schoolhouse had netted enough money to buy two pictures, and the school board had promised to repair and paint the outside of the schoolhouse and outbuildings, to tint the inside walls of the schoolroom, and to dig a well.

In these schools the upper-grade pupils become responsible for the cleanliness and healthfulness of the schoolroom, outhouses, and school grounds. For efficiency in meeting these responsibilities, acting as

individuals or in committees, they are given one half the rating received in the study of hygiene, the other half being given for class work.

CLASS DISCUSSIONS

Class discussions should raise many practical questions which may be put to the class as problems. Some of these are:—

1. How much sleep should a child of fourteen years of age have? Quote authorities and reasons.
2. Should children under fourteen years of age drink tea and coffee? Quote authorities and reasons.
3. Let each member of the class make a statement of the food and drink consumed in a day. Give its food constituents, and estimate weight and bulk.
4. As a class exercise make out a hygiene "ration" for a day.
5. Committees might be formed as follows:—
 - (a) Light regulation. This committee should keep the shades in repair as well as assume responsibility for regulating light.
 - (b) Heat and ventilation—keeping thermometer records.
 - (c) Schoolroom dusting — with damp cloth.
 - (d) Care of playgrounds.

The work done by these committees should be thought of as a part of the hygiene study. Negligence or indifferent work should reduce the school rating in this study.

- (e) Where it is feasible, selected or elected pupils in the hygiene class might be assigned the duty of school-building inspectors. These pupils should be allowed to carry out their inspections in school hours.

The following questions, or others prepared by the class, might guide the inspection:—

1. Is the heat, the light, the ventilation right and well regulated in each schoolroom in the building?
2. Are the desks and seats adjusted to the pupils? Are the feet of any pupil dangling? What is the effect of this?
3. Report on the posture of the school-children — sitting and standing.
4. What is the anatomical effect of high-heeled shoes?
5. What is the source of the drinking water for the school? Is the location and are the surroundings of this source of supply desirable or not? Why?
6. Why is spitting so universally condemned and punished by law? Is the law observed in this community?
7. What are the physiological effects of eating and drinking fast?
8. What is the proper clothing for indoors and for outdoors at school?

These and many other questions will naturally be raised and should be assigned as a part of the hygiene lessons for study and discussion in class.

The girls of the seventh and eighth grades should be given instruction in the care of babies and young children. These lessons may be given by the school nurse, if there is one. The Parent-Teachers' Club or the Women's Club of the town may properly undertake to provide special instruction if there is no other way provided. This instruction should be simple and practical.

THE GENERAL HEALTH OF THE SCHOOL

There are three matters relating to hygiene that should engage the teacher's interest continuously. They are the general health of his school and of each

pupil; physical training, including plays, games and posture; and personal safety.

The first of these, the general health of the school, is the special care of the medical inspector, when there is one, but his usefulness is much restricted if the teacher does not become his sympathetic and intelligent assistant. Perhaps it would be better to reverse the professional relation and think of the medical inspector and school nurse as assistants to the teacher, as, in fact, they are. In a majority of the schools of this country responsibility for the oversight of the pupils' health and also of the sanitary condition of school buildings and toilets rests solely upon the teacher, because of the indifference of school boards, health boards, and medical inspectors. Many teachers, and an increasing number of them, are lightening the burden as previously stated by sharing it with the pupils, correlating the performance of the common, necessary daily and weekly duties with the study of hygiene.

Physical training is coming more and more under the direction of the specialist, and better methods are being employed. So-called "gymnastics" is giving way to regulated play. Little exercise is now taken in the schoolroom beyond stretching and relaxing movements to rest body and mind, while the room is being "flushed" with out-of-door air. The school yard has become a playground and is less than formerly a loafing place. As to games, children learn some from each

other, but their "repertoire" in many instances is found to be surprisingly limited. Particularly is this true of children reared in rural sections. These children, limited as they sometimes are in their social intercourse, are often as much in need of being taught what and how to play together as they are of being taught how to read, or to write. Every teacher, at small expense, may buy a book of games suitable for all ages of pupils, although such books ought to be furnished gladly by school authorities. In addition to the direct physical and mental benefit of regulated play upon the pupils, games create natural situations which may be utilized with great profit for civic training. Children often reveal themselves more fully on the playground than in the schoolroom.

Training in posture or correct carriage of the body is coming to be recognized as an indispensable part of physical training. Posture determines the relative position of the different parts of the body. If it is habitually correct, all parts of the body are in the right position to perform their functions and to develop properly. Habitually wrong postures, in sitting, standing, or walking, hamper the normal action of the vital organs; they distort the bones and muscles and cause unsymmetrical growth. In some schools instruction and training in posture is made a distinct part of the daily work of the school, and pupils are rated in this subject as they are in conduct, school attendance, or in the various subjects of study, the rating being based

on their habitual postures as they sit and stand in the school and on the observations of the physical director at times of special inspection. It is well to train pupils to test their own posture from time to time and to appoint committees of pupils to assist the teacher in his efforts to establish good habits in this particular.

“Safety First” has become a familiar warning, met with in factories, stores, railroad stations, and on many street corners. For all alike, the warning is a safeguard, and children must be made aware of the many dangers against which the warning would protect them.

What we are in the habit of calling “accidents” cannot occur except through lack of thought; the child intent on his play, the adult intent on other matters, is the victim of an “accident.” The mother, who gives no thought to the danger, permits the child to play with a bonfire or matches; permits the child to make the highway a playground, notwithstanding the fact that there are vacant lots, yards, and, in many municipalities, regularly maintained children’s playgrounds. The automobile operator, the horse driver, the motorman, and the locomotive engineer are too often blamed for injuries sustained by children when the blame properly rests upon the parent, guardian, or teacher who failed to point out the dangers. It is possible by setting a good example, and by repeated words of caution, to succeed in training the child to think “Safety First,” and to realize that the chances taken because of lack of thought, even though they may not result in personal injury or death, are out of all proportion to the pleasure gained or the time saved.

Caution should not be confounded with fear, and the exercise of caution, the habit of consideration of “Safety First,” need in no manner interfere with work or recreation. There is no rational thing which we desire to do that cannot be done in a manner consistent with the thought of “Safety First.”

Good results have been obtained by appealing to the larger children to constantly safeguard the smaller, not only during, but before and after school hours.

The effect of a constant example of care, mental balance, thought and absence of hurry set by larger children and especially by teachers cannot be overestimated.¹

Teachers may make use of the following device to bring home to pupils the variety of dangers against which they must be on their guard:—

- S Steam and street cars.
- A Automobiles.
- F Fire.
- E Electricity.
- T Teams and Think.
- Y You! the person who must think of "Safety First."¹

In every grade the matters that pertain to their own self-protection should be brought definitely to the attention of children, and the smaller ones should be shown the safest way to go to and from school, and the safest street crossings, and they should be cautioned to look both ways before stepping from the sidewalk to the street and before crossing a railroad track.

Results in conduct and knowledge

The results of such a course of study and training in the art of right living as has been set forth briefly in the foregoing pages, may be stated with some degree of definiteness. A number of the important results mentioned below have not been foreshadowed in the preceding discussion because its purpose was to indicate

¹ Pamphlet issued by Public Service Corporation of New Jersey.

how the results might be secured rather than to enumerate all desirable lines of work. The quantity of result is much less important than its quality and variety.

The first evidences that the instruction in hygiene is accomplishing its purpose will be the growing initiative of the pupils in bettering and caring for the school surroundings. They will be ambitious, with the teacher, to keep the schoolroom clean, and to make it as attractive as it can be made under the conditions. They will be interested in making and executing plans for the proper care and use of the school grounds, and for keeping outhouses, or toilet quarters, in sanitary and moral condition. There are many schools where the teachers and pupils are accomplishing these things with very little aid from the community at large. It would appear that, if this is true of some schools, it may be true of all.

In addition to this, it may be expected that by the end of the elementary school course (1) pupils will have a working knowledge of the structure of the human body; (2) they will know in general how the various parts and organs do their work; (3) they will know the conditions necessary to keep the body in good working order; (4) they will understand the nature of contagion and know how to guard against harmful contagions; (5) they will know the sources of common dangers and be intelligent in the face of likely emergencies; (6) they will know something of the nature and value of foods and drinks; (7) they will know the

nature of alcohol and tobacco, their evil effects on the growing organism and on society at large, and their probable effects on the mature person; (8) they will have an intelligent attitude towards their own health and that of the community; (9) they will know what is meant by "conserving" their physical and mental powers by self-control in all things; (10) they will be well-mannered in their associations with each other and with their elders.

COLLATERAL READING

1. On posture:—

(a) *The Posture of School Children.* Jessie H. Bancroft.
Chapters XXI and XXII.

(b) *The Hygiene of the School Child.* Lewis M. Terman.
Chapter VII.

2. On play:—

School Hygiene. Fletcher B. Dressler.
Chapter II.

3. On alcohol, tobacco, patent-medicines:—

Civics and Health. William H. Allen.
Chapters XXXIV, XXXV, XXXVI, XXXVII.

4. On mental hygiene:—

(a) *The Hygiene of the School Child.* Lewis M. Terman.
Chapters XVI, XVII, XVIII.

(b) *School Hygiene.* Fletcher B. Dressler.
Chapter XX.

Also the following books:—

The Boys and Girls of Garden City. Jean Dawson.

"The book relates the experience of a group of boys and girls engaged in solving the problems of their own community life." Profusely illustrated. Very practical and highly suggestive.

The Teacher's Health. Lewis M. Terman.

Very valuable for the teacher's personal use and for the information of school authorities.

Hygiene for the Workers. William H. Tolman.

A most practical book for actual and prospective workers and for teachers of the upper elementary grades.

Education by Plays and Games. George E. Johnson.

The theory, history, and place of play in education with graded groups of games for use in and out of school.

Play and Recreation for the Open Country. Henry S. Curtis.

Contains many helpful suggestions for the organization of recreation in the rural home, in the rural school, and in the rural community.

Games and Dances. William A. Stecher.

Games, song-games, and dances for children, arranged by grades. Full directions given for playing the games.

Educational Hygiene. Edited by L. W. Rapeer.

"This volume is an attempt to bring together in organized form the latest information and advice of leading specialists in all the large phases of the subject."

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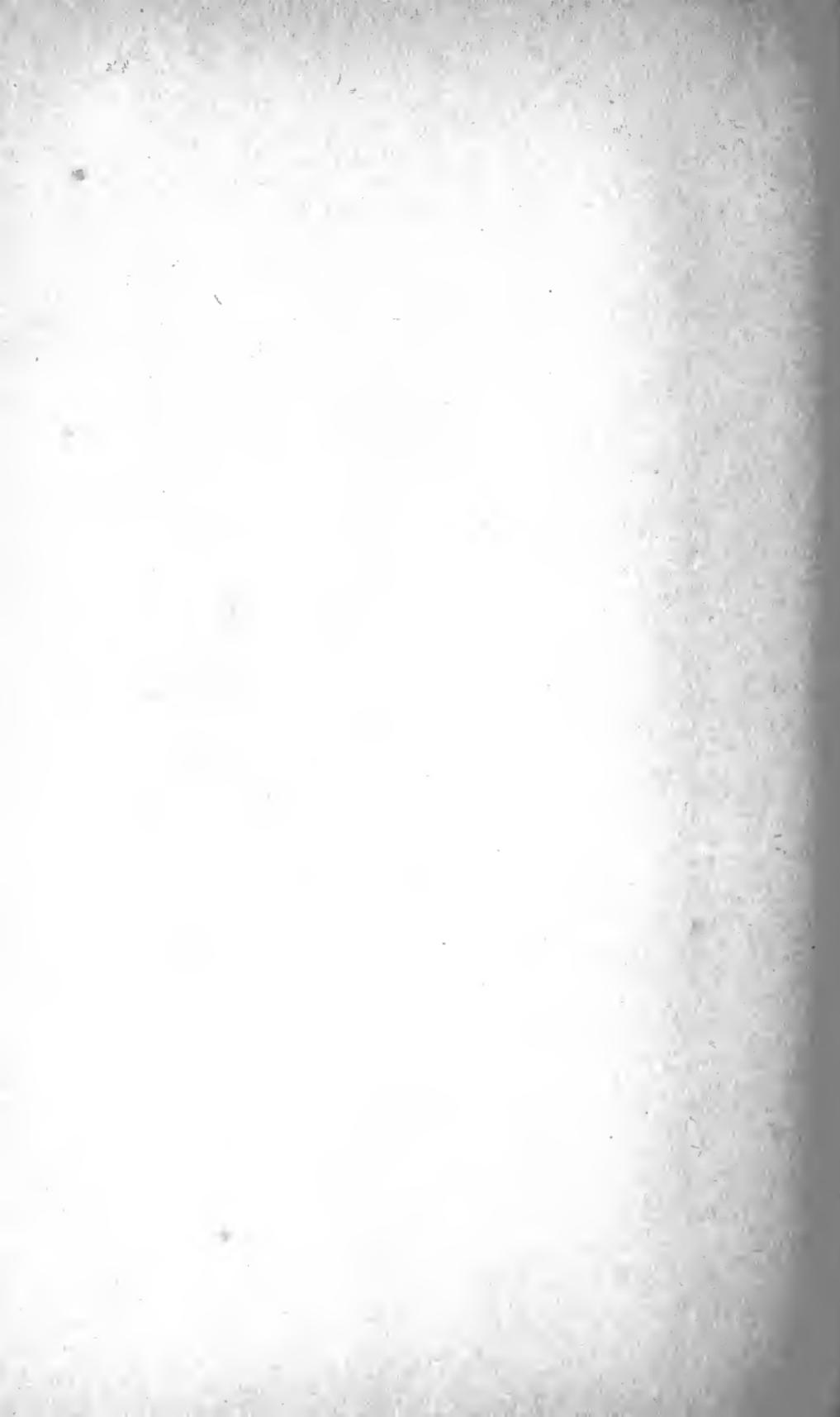
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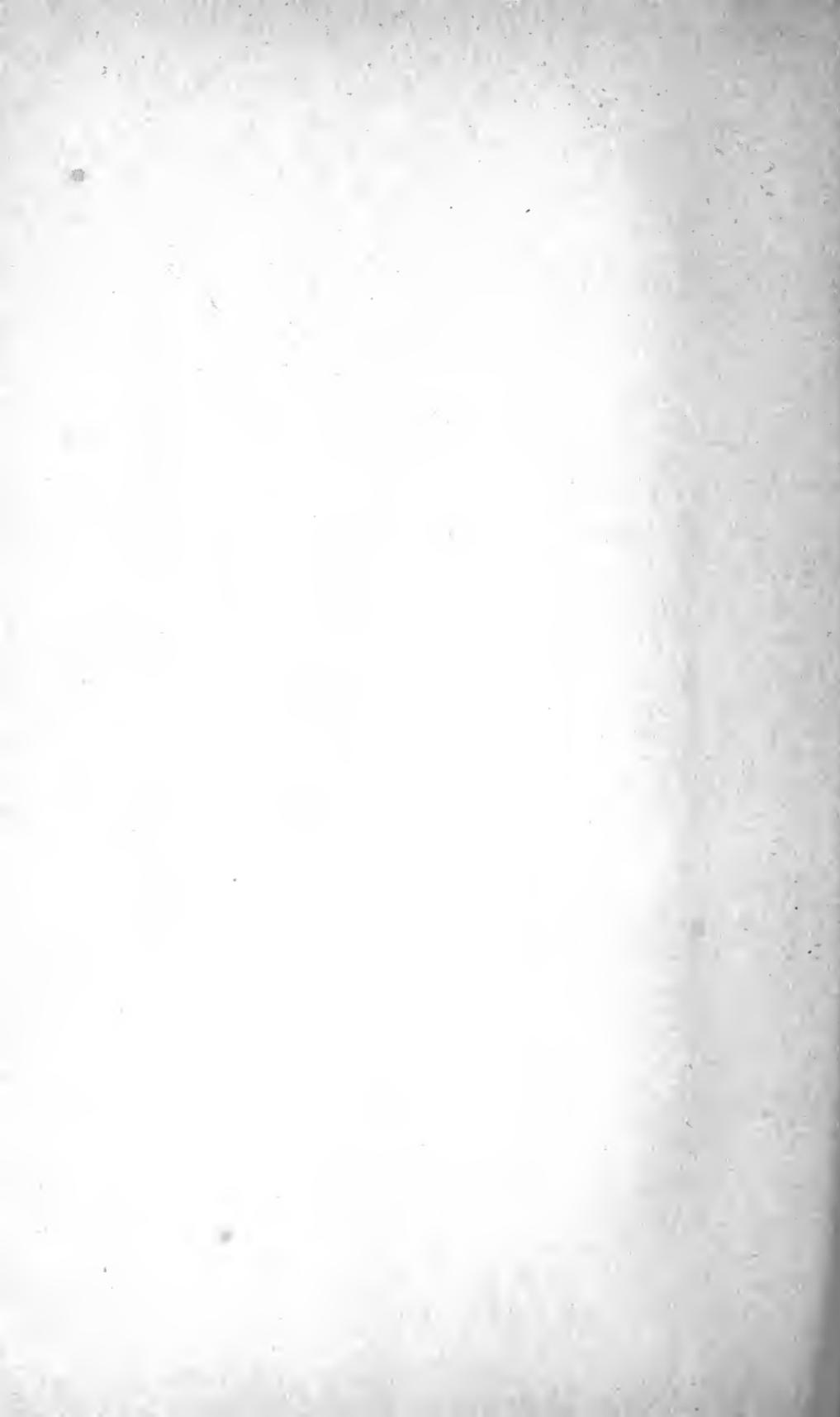
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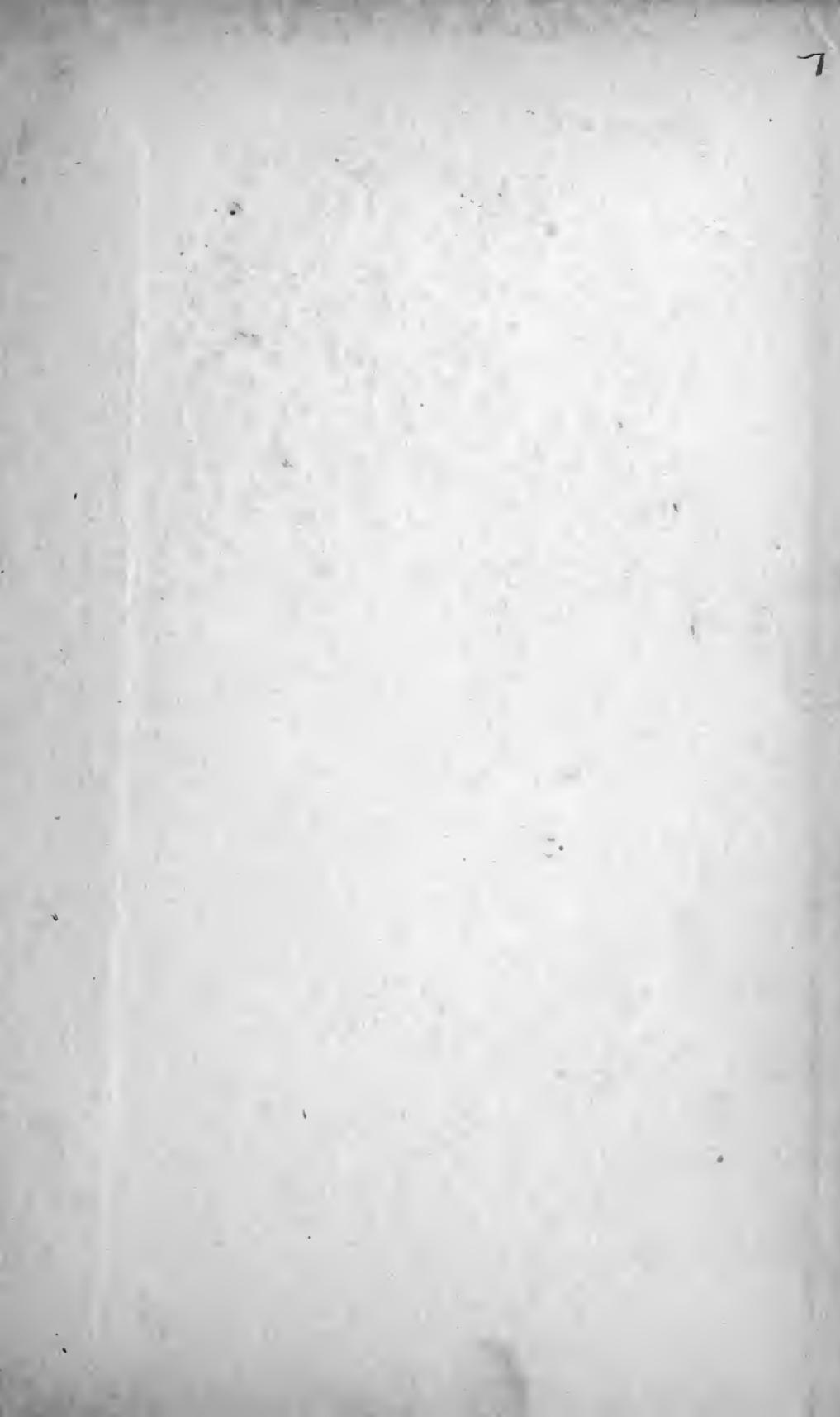
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